



# MAGAZINE

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# THE I.C.I. MAGAZINE

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Front Cover: Breton Fishing Boats. A camera study by Miss E. E. Atkins (Nobel House).

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JAMES WILSON ARMIT, Chairman of Wilton Council, was born in Nova Scotia and educated at St. Andrews University where he made his mark by taking both a degree in Classics and Economics and a B.Sc. (First Class Honours) in Chemistry. After serving with the Royal Scots in France in the first World War he joined Nobel's Research Department in 1923. Since then his major appointments have been M.O.S. Director-General of Explosives and Chemical Supplies (1942) and Chairman of Leathercloth Division (1946).

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SAM ROCKETT put up last year the remarkable performance of swimming the Channel while still holding down his job as foreman at the Wandsworth factory of Plastics Division. He is now a swimming instructor at Folkestone, where he is coaching competitors for this year's Daily Mail cross-channel race.

CHARLES WORMALD visited the Outward Bound Sea School to take photographs for us. But so impressed was he by what he saw that he volunteered to write the article as well. He is manager of the Kynoch Press Studio and a past president of the Institute of British Photographers as well as a Fellow of the Royal Photographic Society.

# The WILTON A 1946 t

By Dr. J. W. Armit

SOLWAY FIRTH

BARROW IN FURNESS

Three years ago Wilton Works was doing a great experiment in inter-divisional co-operation. It is no longer an experiment: it is an established fact. Chairman of Wilton Council reviews the progress.

WHEN Lord McGowan visited Wilton in August 1946 he was shown with pride a few yards of a new road being driven from the Redcar to Middlesbrough Trunk Road southwards through the standing corn in a direct line to Wilton Castle. This was the beginning of Central Avenue, the main axis of Wilton Works, and it was the beginning also of the planned development of the site.



# ADVENTURE

## to 1951

(Chairman of Wilton Council)



*Photographs by The Kynoch Press Studio*

described in the Magazine as "I.C.I.'s  
-operation." Today that co-operation  
established fact; and in this article the  
the achievements of the past five years.

I think it was the Americans who, well aware, for all their  
hustle, of the influence in the affairs of men of the efflux of  
time, coined the saying "Between the test tube and the tank-car  
lie ten long years." The test-tube stage of the Wilton project—  
or the Wilton "adventure," as our Chairman has termed it—  
began at Winnington on 31st March, 1943, when Mr. Lutyens  
held a meeting of senior officials of the Alkali, Billingham,  
Dyestuffs and General Chemicals Divisions. They met to



WILTON VILLAGE GREEN. *The almost feudal charm of this village, so long in the hands of the Lowther family, remains untouched by the industrial development of the estate.*



ALMSHOUSES at Kirkleatham in which the first Wilton offices were temporarily established six years ago



WILTON CASTLE, *headquarters of the senior Wilton Works staff, as seen from the lawns on the south side*



discuss what immediate action should be taken to determine where new manufacturing capacity should be placed for new and existing I.C.I. chemical products, and reached the conclusion that if I.C.I. policy required an entirely new works, then the mouth of the Tees seemed the best site. The products being considered at this stage (the minutes of the meeting emphasise) were those based on salt, ammonia and hydrogen, i.e. a self-contained factory with processes from a number of the I.C.I. Divisions.

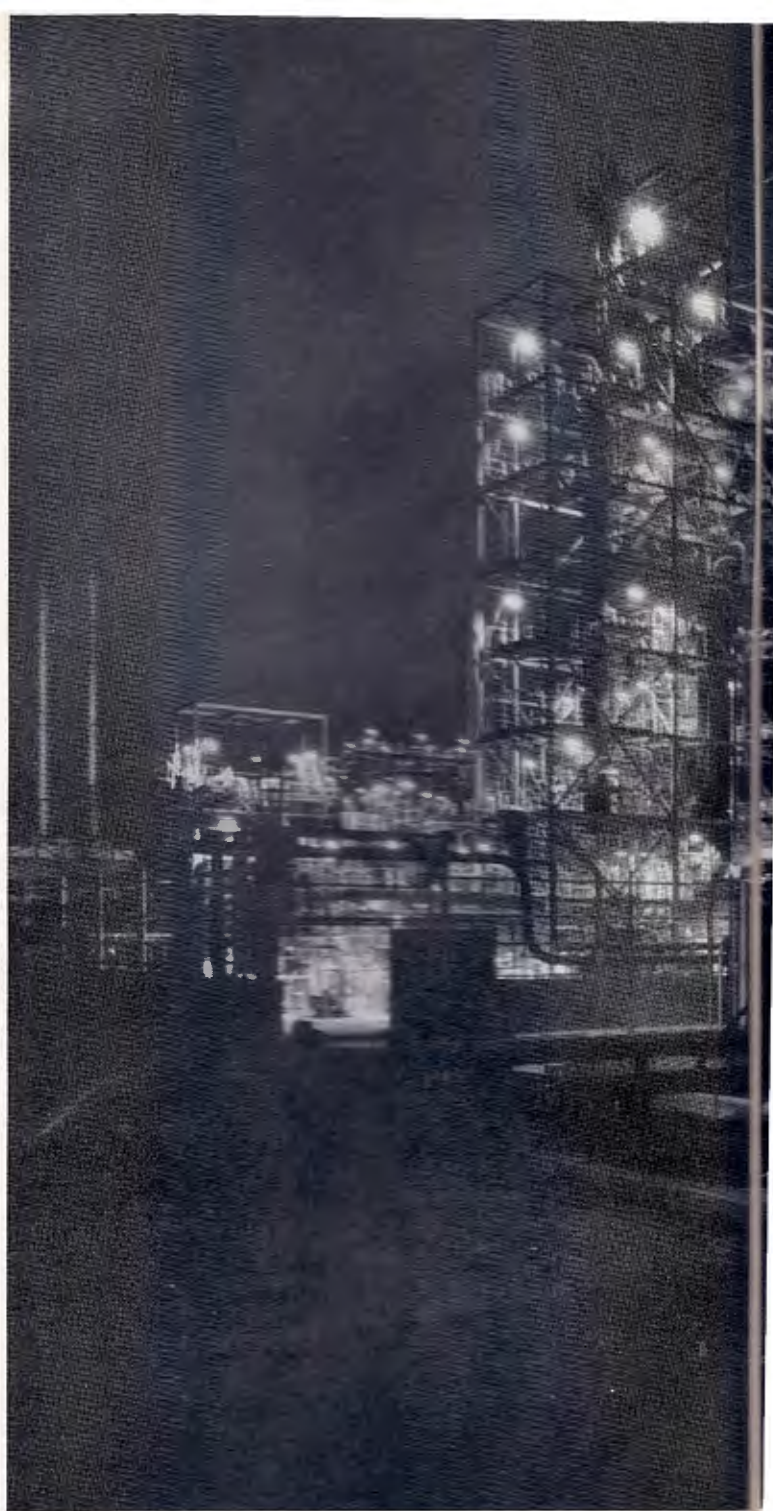
During the next eighteen months the idea was amplified and studied in greater detail. In one phase considerable emphasis was placed on concentrating all the Company's heavy organic chemicals manufacture—present and future—on the new site. Later on a large part was to be played by a joint company formed by I.C.I. and a leading oil concern to crack oil and manufacture chemicals from the products.

The more the idea of a composite factory was turned over in the minds of the senior officials concerned the more it gained in attractiveness, and in the autumn of 1944 a small technical team was formed to explore the banks of the Tees and other localities throughout the country for a suitable site. By the spring of 1946 some 2000 acres of the level lands of the Wilton estate lying north of the Eston-Kirkcaldy road had been acquired from the Lowther family, in whose hands they had been for two centuries. A few months later Wilton Castle—and with it (of necessity, not choice) the remainder of the Lowther estate, mostly rough and hilly country—was bought in order to have a place in which to house the planning and design staffs.

Very soon a definite decision was taken by the Plastics Division board that their new phenol formaldehyde moulding powder plant and new 'Perspex' plant should be built at Wilton. A urea formaldehyde moulding powder plant and a resins plant were also in prospect. After attention had been directed to Heysham as a cheaper site on which to carry out the oil-cracking project, it was finally decided that the advantages of Wilton, in the area available, in the coal and water resources, and particularly in its proximity to Billingham, left no room for doubt that it was the better site. At this time too Salt, General Chemicals and Dyestuffs Divisions were seriously considering plants at Wilton—for salt, chlorine, ethylene oxide, 'Lissapol N' and alphanaphthylamine.

With all these prospective tenants for the site the need for a general policy for the organisation and administration of the new factory became urgent. To Sir Ewart Smith the Board of I.C.I. delegated the task of outlining a constitution for Wilton. His proposals, incorporated in a memorandum dated 7th May, 1946, were accepted in principle by the Board. Wilton has been developed under that constitution, and in the course of its growth, as was the expressed intention of Sir Ewart, the outline of the constitution has been filled in and been given added depth as experience has been gained.

In the middle of 1946 it was decided that the projected extension of polythene manufacture should take place at Wilton. Early in 1947 the scheme for a joint company for oil cracking fell through and I.C.I. decided to go ahead alone, with Billingham taking full responsibility for the cracking project. This decision made Wilton entirely an I.C.I. concern, which simplified considerably the administration of the works. Billingham later took over the ethylene oxide project from Dyestuffs Division and also decided to build a formaldehyde plant at Wilton. Although the idea of a salt works has not yet materialised, the chlorine plant of General Chemicals Division was finally decided on in May 1948.



NIGHT-TIME at

And so the first stage of Wilton consists of the erection of ten manufacturing plants belonging to five of the Company's Divisions with all the main and subsidiary services they require. Already there are in operation plants and services to a value of £15 million.

The spring of 1953 will see the completion of the first ten years in the life of the project, which began with Mr. Lutyens' meeting at Winnington. One of the two further polythene units which are about to be sanctioned should then be coming into operation, with a second following in six months. The 5000-ton 'Terylene' plant on the east side of Central Avenue and opposite the Plastic Works and the 15,000-ton phthalic





*the olefine plant, one of the major construction projects now on hand at Wilton Works*

anhydride plant of Dyestuffs Division should be in an advanced stage of construction, and one or two smaller plants might be in production. With Stage II thus well on the way, there can be no doubt that the "tank-car" phase in the development of Wilton will have been reached.

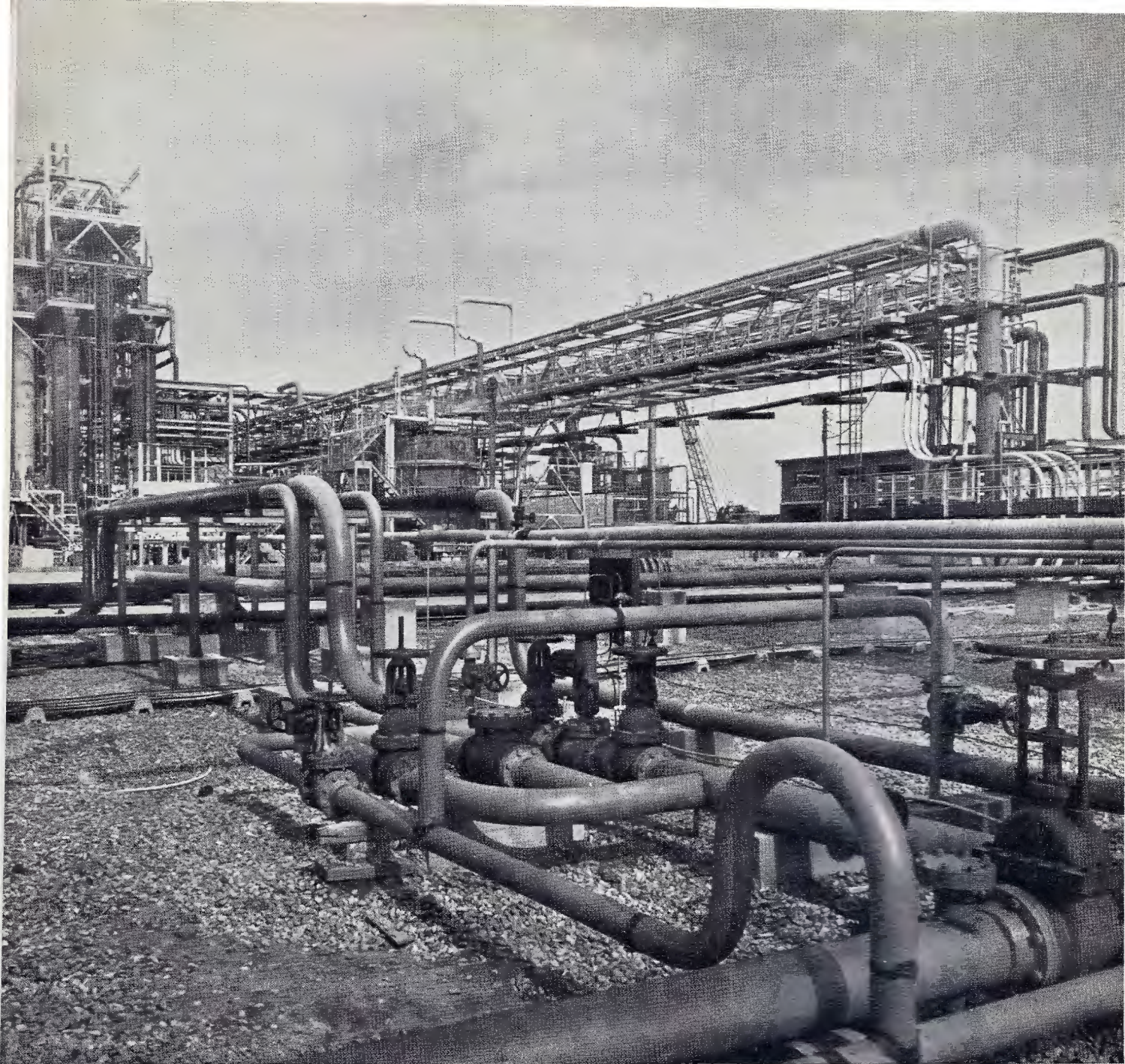
In the life of the Romans a special significance was attached to a five-year period, the *lustrum*. In August of this year it will be five years since the building of Central Avenue started, and few things would be more welcome or give greater pleasure at Wilton than a visit then from Lord McGowan.

In the early days of Wilton, before people had grown accustomed to the post-war increases in construction costs,

the question was sometimes asked by those who had not had close contact with the schemes under development, "At these high capital costs, can Wilton possibly make a profit?" The answer was, of course, "Yes, it can, as these costs have been taken into account in estimating the return on the capital employed." This question is no longer raised, because not only are we grown accustomed to high capital costs but we realise that they are rapidly rising still higher.

There is work ahead for over fifty years at the present rate of development. How large Wilton will grow—how much of the 2000 acres of site will eventually be covered with industrial plants and buildings—is a question involving so many





PIPE-WORK on the ethylene oxide plant. One of the features of Wilton is that overhead piping has been kept down to a minimum.

complex factors that a definite answer cannot be given. Suffice it to say that care is being taken so to arrange the development and layout that, if at any stage it is decided that the factory is large enough, a halt can be called and a compact works would remain economical both to operate and to administer.

The staff is a composite one drawn one-fourth from the four corners of I.C.I. and three-fourths from outside the Company altogether. It has gained much in experience in the five years since planning and construction started, and its record for these years is to be seen on the site and to be read in the large amount of new work being brought to Wilton.

I.C.I. employees at Wilton now number some 2000 factory payroll workers and 450 staff. By 1953 it is estimated these numbers will grow to 4250 and 600 respectively, and it is

expected that then, as now, around 2000 contractors' men will in addition be employed on the site.

Problems will multiply as Wilton grows, but it can be predicted with confidence that they will continue to be solved in the best interests of the Company and to the happiness of those who devote their lives to its service.

In conclusion I think it not inappropriate to give a quotation from the introductory remarks of my address last April to the Wilton Site Council. "I should like in the first place to ask you to keep well before you the conception of Wilton as a federation of Division plants—each Division being wholly responsible for its own technical and commercial affairs but all united together with the Wilton central organisation in the development, administration and perfection of Wilton as one great factory."



# Information Notes

## THE TRAINING OF REGIONAL STAFF

By D. Gardner (Sales Control Department)

*Adult education has been a feature of post-war training of Regional staff and the special concern of the Sales Controller, Mr. E. M. Fraser. Commercial Representatives are today taught chemistry and physics at a special three-months' course run by the Bolton Municipal Technical College.*

IN 1946, when most of the men from the Services had returned to the Regions and many new recruits were being taken on, a large number of people required instruction, whether to bring their knowledge up to date or to learn from the beginning. It would have taken too long had they been allowed to learn solely by doing, i.e. the hard way; so it was decided to plan their training on systematic lines and to endeavour to shorten the time normally taken to acquire experience.

Accordingly jobs were analysed, and it became clear that there were broadly three types of training which could help. These were: basic technical training; instruction on the use of our products in industry; and commercial training.

A measure of basic technical training is essential because a salesman is frequently faced with technical enquiries and technical problems. If the query arises during a discussion at a customer's works it is obviously very necessary that the salesman should understand the language spoken and be able to convey to the specialists in the Divisions the real nature of the problem.

A three-months full-time residential course in chemistry and physics was therefore designed and specially organised at the Bolton Municipal Technical College. Since 1948 we have sent about 90 people there and other prominent concerns have joined us in this project; it has been beneficial to their people, no less than to ours.

Bolton was chosen for many reasons; the college is a fine modern building with excellent laboratories and lecture theatres; the quality of instruction is high; the Y.M.C.A. hostel, where the students live, is a pleasant country residence standing in its own grounds; and (most important) the Principal and his staff have from the start been greatly interested in the course. It was something new that had never been attempted before.

A student arriving at the hostel will know few, if any, of his ten or twelve colleagues; they will have come from other Area Offices in different parts of the country, from the Divisions, and even from overseas. For example, on one of these courses we had a Spaniard from our Madrid office, on others we have had staff who were shortly going to take up appointments in India, Indonesia and elsewhere.

The age of the people attending varies as a rule from 22 to 30; some of them may have been to a university but the majority will not have received any adult education and few will have studied chemistry since leaving school.

It is quite a mental jolt to enter into an academic atmosphere straight from the routine of normal work; the days are spent in the lecture theatres and laboratories, while the evenings are devoted to studying what has been taught. Two intervals of about an hour per week in the gymnasium, with vigorous exercise in a match of basketball, provide some relaxation and many bruises. There is golf at the week-end, otherwise few distractions.

The tempo rises as examination day approaches, and though there is no competition there is naturally a competitive spirit. The students return to their jobs better men, better not only in technical knowledge but also because their minds have been broadened by exchange of ideas and by new contacts.

In the second type of training, that of instruction in the use of I.C.I. products, the Divisions play the chief part. Courses are graded to suit different degrees of experience—elementary, intermediate and advanced. The teaching is done by specialists. Students attend lectures and demonstrations, followed by discussions; they pay visits to plants and packing sheds, and spend some time in the distribution departments. They get to know their colleagues, and have a useful opportunity of comparing problems which have arisen in different parts of the country. Towards the end of each course there is usually a written examination or an oral test and, in some instances, pupils give lecturettes to their colleagues on a given subject picked out of a hat—a useful way of revising what has been taught.

The extent of this activity may be illustrated by an example taken from the courses of the Chemical Sales Department. Here we have some 25 to 30 different syllabuses of instruction at six of the Divisions; and Sales Control have received for 1951 no less than 260 nominations in this field alone. Some of those nominated will attend more than one course during the year in accordance with a prearranged training timetable.

Commercial training is on a different footing. To a large extent this is given during a man's normal work, either in the field when the trainee accompanies experienced men on visits





*A syndicate session at a commercial course on How To Run A Meeting*

to customers, in the Divisions, through colleagues in the Sales Control Departments, or in the office. Recently we have also run special commercial courses for sales staff, and the technique which we have used has been based, in the main, on what are known as group or syndicate discussions of various themes and problems relating to normal day-to-day activities.

There may be two or three syndicates of eight people on a given course and they will work together as a team from beginning to end. After being taught how to run a business meeting, each person takes the chair and discusses a previously selected topic or problem with his colleagues. It is most stimulating to see various ideas put forward and shot down when there is a fierce clash of opinion; in the end conclusions are reached, and when the discussion is over, helpful criticism is given on the performance of the leader as chairman. Brief reports are prepared, incorporating the findings of the syndicate, and these are circulated to the whole assembly.

On the last day of the course, at a full assembly session, the reports are introduced and amplified by the syndicate leaders; they are discussed, and at this stage particularly the directing staff give guidance. In I.C.I. we have many specialists in a varied field of subjects such as law, accounts and finance, productivity and economics, market research, and so on. We have made considerable use of these specialists, who give lectures and deal with the many questions asked by the syndicates.

It is a highly concentrated course intended to give people an opportunity to learn from one another and then to present their conclusions clearly.

So much for the commercial training courses. But the best commercial training ground of all still remains the Area Office, where recruits for our overseas companies usually spend three months in order to learn the fundamental principles of business and how I.C.I. sells its products.

## THE AGE OF BUREAUCRACY

Contributed by Alkali Division

It is a common gibe at the twentieth century that it sees the dawn of the age of bureaucracy—the tyranny of the printed order. There is no doubt that this gibe is to some extent based on a truth: life has become so complicated by form-filling, controls and rationing that staff has had to be engaged for the sole purpose of dealing with them. Our factories, too, have grown so large and complex that what was once readily covered by a works manager talking to his men as he went his rounds, or by his regular reports to his works council, must now be supplemented by works newspapers, wall sheets, notices, film shows, exhibitions and so on.

All this means more staff and their attendant stenographers and typists to help the works manager to do it, both at the works and in the division headquarters. With size comes complexity. Whereas, in the old days, the works engineers could rub along doing their own drawings and design work for all but the biggest projects, nowadays a central drawing office

staffed with specialists has become essential. Thus over the years since the beginning of the twentieth century the proportion of staff to payroll workers has gone up and up.

In a recent issue of the *District Bank Review* an article headed "A Burden on British Industry," by K. S. Lomax, Lecturer in Economic Statistics at Manchester University, draws attention to this "steady and continuous" rise in the ratio of a staff to payroll in practically all industries during the last forty years. He argues that this rise ought to be stopped.

Some of Mr. Lomax's figures are reproduced in the following table, to which figures from the Alkali Division have been added. In this table the ratio of staff to payroll in 1907 is taken as 100. An increase in this figure in later years means that the ratio of staff to payroll has increased. For instance, take the cocoa and chocolate trades: if 100 represents 1 staff to every 10 payroll in 1907 (or a ratio of 1 : 10), the figure of 200 in 1948 represents 2 staff to every 10 payroll (or a ratio of 1 : 5).



INDUSTRY	The Increase in Administrative, Technical, and Clerical Staff for the same number of Payroll Workers based on the 1907 Level				
	1948	1937	1930	1924	1907
Brewing and malting .. ..	111		100	100	100
Cardboard box .. ..	222	151	127	118	100
Chemicals, dyestuffs and drugs ..	278	231	200	156	100
China and earthenware .. ..	164	133	130	126	100
Cocoa, chocolate, etc. .. ..	200	156	152	132	100
Cutlery .. ..	181	130	150	132*	
Glass .. ..	220	183	174	132*	
Glove .. ..	172	128	126	109	100
Hardware and hollow-ware ..	179	138	132	125	100
Jute .. ..	338	210	149	132*	
Lace .. ..	175	160	163	160	100
Leather (tanning and dressing) ..	179	141	159	146	100
Linen and hemp .. ..	210	157	128	132*	
Linoleum .. ..	588	329	212	182	100
Paint and varnish .. ..	192	198	156	152	100
Printing and bookbinding .. ..	192		162	160	100
Rope, twine and net .. ..	179	145	129	134	100
Sugar and glucose .. ..	156		108	98	100
Textile finishing .. ..	250	190	188	160	100
Tobacco .. ..	217		159	124	100
Tool and implement .. ..	133	93	100	99	100
Water undertakings .. ..	156		114	103	100
Arithmetical average .. ..	213	169	146	132	100
Alkali Division .. ..	416	254	238	153	100

\* No previous figures available, 1924 average used.

It is improbable that the figures for the ratio of staff to payroll in the Alkali Division have been prepared on exactly the same basis as that used by Mr. Lomax. There are bound to be anomalies, particularly since the formation of I.C.I. in 1926; nevertheless, these figures give a rough comparison between the Alkali Division and other industries in Mr. Lomax's table. If Mr. Lomax be correct in thinking that the continued increase in the ratio of staff to payroll is bad, then the Alkali Division's figures are as bad as, or even worse than, any of those quoted by him.

Now recent increases in the Alkali Division can, it is true, be attributed to some extent to the increased clerical staff required on account of National Health Insurance and Unemployment Insurance, P.A.Y.E., the working of industrial controls, completion of forms for government departments and local authorities, and so on, as Mr. Lomax suggests. On the other hand, he does not seem to allow for the amount of specialization that has taken place and how *detailed* responsibility has been transferred from a works manager's hands to experts in his works or at division headquarters. Also, he does not seem to have given enough weight to the increased care that is taken of the payroll employee in such things as education, safety, and division medical and dental services.

All these, with the specialists mentioned in the opening paragraph, have helped to bring the ratio of staff to payroll in the Alkali Division from 1 : 17 in 1907 to 1 : 4 today. Nearly all the increases in staff occurred in the lower grades, without a disproportionate increase in higher management.

The crucial question remains—is the present Alkali Division, with its high ratio of staff to payroll, more efficient than it was in 1907? Is more alkali made for every person employed today than was made for every person employed forty-odd years ago? The following table shews the rise in output *per person employed* compared with the ratio of staff to payroll.

We in the Alkali Division think that, in the main, the increase

Year	Output/Employee (1907 = 100)	Ratio of Staff to Payroll
1907	100	1 : 17
1912	117	1 : 14
1924	162	1 : 11
1930	220	1 : 7
1935	260	1 : 7
1948	255	1 : 4
1950	268	1 : 4

in the ratio has been due to better planning and better supervision, calling for more staff, and to better design and better production methods generally, enabling a given number of payroll to produce more alkali. If the foregoing analysis is correct, there can be no doubt that the increase in the ratio of staff to payroll has been accompanied by a proper increase in productivity. In the Alkali Division's case, anyway, it is considered that the increase in the ratio is far from being the evil that Mr. Lomax suggests.

## TAPERED 'LURON' CASTS

Contributed by Plastics Division

To the range of 'Luron' nylon monofilament fishing casts and lines Plastics Division has recently added a tapered cast for fly-fishing. The new cast is 9 ft. long and tapers uniformly from root to tip. Two variants are available, one suitable for catching sea-trout and grilse and tapering from 0.016 to 0.010 in. the other, for brown and rainbow trout, tapering from 0.013 to 0.007 in.

This addition to the 'Luron' range will be of considerable interest to fly-fishermen. Until the introduction of the new 'Luron' product, a "tapered" cast was made from several lengths of gut or nylon of different diameters knotted together. It was thus more strictly a graduated than a tapered cast, but even so had many advantages over a level cast and was greatly favoured for fly-fishing.

The principal virtue claimed for the old type of tapered cast was smoothness in casting. The new 'Luron' continuous taper cast will have this advantage in even greater degree because of the absence of knots. Other advantages are its strength and the fact that it is almost invisible in water.

The production of a continuous taper nylon monofilament cast in 9 ft. lengths is no mean technical achievement and represents a high degree of engineering skill in the design of plant. Nylon monofilament is made by forcing the molten polymer through the holes in a spinneret into water where it solidifies. The solid monofilament is then "cold drawn" to approximately four times its original length (with a corresponding decrease in diameter). This cold-drawing process orients the molecules of the monofilament and gives it its great strength. Considerable accuracy is called for in the manufacture of level nylon monofilament: the production of tapered monofilament requires even greater skill.

The variation in diameter of the tapered monofilament is initially applied in the spinning stage by varying the haul-off rate. The subsequent cold-drawing process gives the exact variations in diameter from maximum through minimum to maximum again over each 18 ft. length of the continuously produced monofilament.



# THE FIRELESS STEAM LOCOMOTIVE

By H. C. A. Mauldin (Huddersfield Works)

IN the last century, when electricity and the internal combustion engine were novelties as power for transportation, fireless locomotives were in demand for running on public roads and underground railways, where the purity of the atmosphere was a prime consideration. And today, in areas where sparks or naked flames would be dangerous, there is still a use for the fireless locomotive as a safe form of power.

People at the Huddersfield Works of Dyestuffs Division are familiar with the sight of *Fireless* making her way quietly about the factory. Probably only a few are aware of the general principle on which the locomotive operates.

Instead of the usual boiler and firebox as fitted to ordinary steam locomotives there is a cylindrical heat storage chamber (or reservoir) which is two-thirds filled with water. The water is heated to a temperature above its normal boiling point by charging the reservoir with high-pressure steam from the main works supply.

When steam is withdrawn from the upper portion of the reservoir the pressure drops, and fresh steam is immediately produced, at a correspondingly reduced pressure, from the super-heated water in the lower portion of the reservoir. This, of course, occurs when the regulator is opened to allow steam to pass into the cylinders to drive the engine. In most cases a reducing valve is fitted between the reservoir and the cylinders to ensure a supply of low-pressure steam at a fairly constant pressure for as long a period as possible, and the cylinders are of relatively large diameter to allow the maximum range of steam pressure to be used.

The process of charging, which takes about twenty minutes, is done quite simply by connecting a pipe from the works steam main to an inlet valve on the reservoir of the locomotive. If used for light shunting work, the locomotive will function for 1½-2 hours on one charge. As compared with an ordinary coal-fired steam locomotive *Fireless* is simple to operate, since

the work of firing and other duties necessary to maintain boiler pressure are eliminated. Driving of the locomotive requires only the working of a regulator, reversing lever, and brake.

Some of the earliest fireless locomotives were those used on the Crescent City Railroad, New Orleans, U.S.A. They were built in 1876 and would run six miles on one charge with an ordinary loaded streetcar.

For many years this form of locomotive enjoyed considerable favour on street railways in France, especially in Paris and the larger towns. The most highly developed form of fireless locomotive was designed by MM. Léon Franq and Mesnard for service on the underground section of the Paris Ceinture Railway.

Fireless locomotives have been built in various sizes and to suit practically all rail gauges. That at Huddersfield is the only one in Dyestuffs Division, and possibly the only one in I.C.I.

## FREIGHTAGE BY AIR

Contributed by Shipping Department

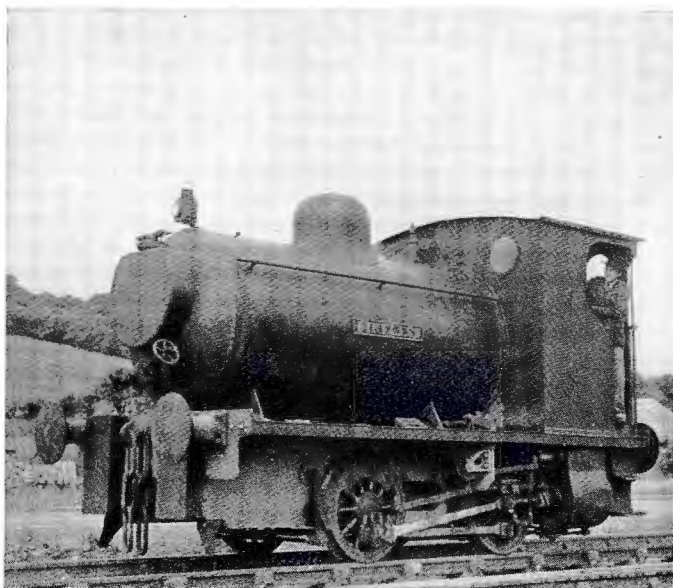
The carriage of freight by air is a comparatively new means of transport and so far as I.C.I. is concerned was not officially organised until 1946. Since then there has been a remarkable growth in the amount of freight despatched. During 1946 the average number of consignments per month was 12, whereas during 1950 it reached 345 per month. It will therefore be appreciated that air freight fulfils quite an important auxiliary function for the Company today, the average lift of I.C.I. products during 1950 being approximately five tons per month.

The main advantages of despatch by air freight are as follows:

1. The shipper buys speed and all its attendant advantages.
2. Careful handling, especially in regard to perishable, valuable and fragile goods.
3. Lower insurance premiums.
4. Minimum package requirements, due to smoothness of flight, infrequency of handling, and highly specialised equipment used to load and discharge aircraft.
5. Quicker turnover, wider sales, distribution, elimination of warehousing for spares and replacements, reduction in spoilage and other similar factors, which vary according to the goods in question.

There is, of course, a limit to the size of packages which can be carried by aircraft, but this range is quite wide, as can be seen from such examples as 9 ft. 11 in. × 1 ft. 10 in. × 1 ft. or 5 ft. 10 in. × 2 ft. × 2 ft.

Freight rates are laid down by the International Air Transport Association. They are governed basically by the factor of distance and are charged per kilo. A reduction of 25% is allowed for consignments over 45 kilos. When the volume of the package exceeds 550 cu. in. per kilo, the rate is charged per unit of 550 cu. in.



*Fireless locomotive at Huddersfield Works*



The following are examples of current rates:

	<i>per kilo</i>
Paris .. .. .	1s. 1d.
Cairo .. .. .	8s. 6d.
Bombay .. .. .	16s. 5d.
Singapore .. ..	21s. 5d.
Sydney .. .. .	31s. 7d.

The main Divisions of I.C.I. which despatch by air freight are Dyestuffs and Pharmaceuticals, but periodically nearly all Divisions use this method of transport. With the exception of pharmaceutical products the majority of these consignments are small samples, but occasionally large lots are sent where goods are very urgently required for delivery on a specific date. Two recent examples of this are nine tons of banding grease (Plant Protection) to Istanbul, and five tons of urea (Billingham) to Lyons. Pharmaceuticals Division, whose products are of course mainly of high value, regularly send fairly large consignments by air freight.

The motive behind the charter companies' drive for business is to cater for loads which cannot be conveniently carried by scheduled lines because the loading and discharge ports are not on their routes, the schedules are not convenient, or the lines cannot accommodate bulky or heavy cargoes. Their chief benefit is in their ability to lift the entire cargo at once, whereas the scheduled lines may possibly take as much as a week.

There are, however, certain disadvantages. For instance, the charter is made for the round trip, so that to be economical a return cargo must be found: also it is not easy to fit cargo to the carrying capacity of the plane; as an example, if a cargo of five tons requires moving quickly and the only plane available could carry seven tons, the exporter would be paying for two tons dead space. All these difficulties hamper the use of chartering for air freight, and although we, as a company, have put through a great number of enquiries, we have invariably found it more advantageous to use the regular lines.

Many samples are imported by the Company by air, mostly for Dyestuffs, Pharmaceuticals and Plastics Divisions. Apart from these samples, the different materials imported and cleared at the airport on behalf of I.C.I. are various and include machinery parts for Wilton Works, embossing shells for

Leathercloth Division and films for the Film Library and Plant Protection. Live animals for the Pharmaceuticals Division—mostly mice, guinea-pigs and monkeys—arrive regularly and seldom fail to create a mild form of diversion.

Very shortly we expect to be importing regular two-hundredweight samples of grass from Ireland for Jealott's Hill Research Station.

## ELECTIONEERING—50 YEARS AGO

The London blitz, besides causing heavy mortality among citizens and doing enormous damage to the fabrics of some of the capital's most ancient buildings, also caused the destruction of many valuable collections. Among these were some of the photographic libraries in and around Fleet Street, whose destruction meant the irreplaceable loss of early news pictures



of great historic importance. This fact lends interest to the print published above, which was discovered by a Head Office man while rummaging at home through some old private papers. The picture shows a very young Winston Churchill (probably at the beginning of the century), speaking (so the caption says) at a Free Trade League meeting held at Hampstead Conservatoire.

The photograph was taken by a man who was a pioneer of the then new art of news photography. For it is only in comparatively recent times that the national newspapers have utilised photographs to any marked extent to enliven their columns. Perhaps some of our readers may recognise other members of the platform party besides the celebrated speaker. Pressmen of those days seem to have been rather more formally dressed than reporters today—note the three at the small table in the foreground and their silk toppers piled behind one of their chairs.



Freight for export being loaded into a B.E.A. Vickers Viking at Northolt



# OUTWARD BOUND S

**H**AVE you ever heard of the Outward Bound School at Aberdovey in Wales? Have you ever thought, seriously, of character development and training for a boy or youth? Honesty of purpose, reliability, justice, integrity, sportsmanship, self-reliance and other virtues that seem to have been largely lost sight of in a world devoted to "incentives" and materialism in every shape and form?

To inculcate just these in the mind of a boy is the purpose of this unique school. To give the boy a chance for leadership not only at sea but in life generally, in the office, in the factory, and in the workshop.

And what a glorious way to have the chance offered! No boy worthy of the name could fail to be thrilled and enjoy himself for every one of the twenty-six days he is there. Boys come from all over Great Britain and are drawn from all walks of life. They have also every kind of social background—but on arrival at the school they all start level, and the only yardstick thereafter is character and individual performance.

The school was founded in 1941 by L. D. Holt of the Blue Funnel Line, and Kurt Hahn, headmaster of Gordonstoun. Mr. L. D. Holt realised that the character training and the seamanship learned in small boats would be valuable to the seamen of the big ships of that company during the hazards of wartime. It does not take much imagination to realise how necessary and vital to survival were discipline, self-reliance and respect for one's fellows on a raft or in a small open boat on an angry sea, and many a man's life was saved, and many a man's real worth discovered, under these testing circumstances.

Mr. Hahn had long advocated that the ideal system of schooling was one which would produce the "whole man," one not only possessed of a trained brain but also a body developed to the limit of its natural capabilities and one which

By Charles Wormald (The Ky

During recent years the Company has made increasing at Aberdovey in Wales. Here young apprentices are Chemicals, Metals and Alkali—for short 26-day courses develop, through seamanship training, a boy's self-reliance



EARLY MORNING PARADE, *when the Chaplain says prayers and the Red Ensign is ceremoniously hoisted*

had faced and overcome occasions involving danger and fatigue.

Such was the testing ground for the training given in this remarkable school, and it proved worthy. It is still proving its worth in less dramatic circumstances, and that is why it is supported by farseeing people and organisations like our own Company. The school is now managed by the Outward Bound Trust, who also maintain the Outward Bound Mountain School at Eskdale.



# SCHOOL

(Photo by Studio)

use of the Outward Bound Sea School  
ent by the Divisions—notably General  
s. The object of these courses is to de-  
e, discipline, and powers of leadership.



LIFEBOAT DRILL PRACTICE, *which is continued until each crew is proficient and can complete the drill in a standard time*

The school is officered—if that is the correct word—by serving officers of the Mercantile Marine, mainly drawn from the Blue Funnel Line, augmented by a few ex-officers of the fighting services. However, there is little “officering,” as the declared policy of the school is that the boys to a large extent shall institute, experience and enforce their own discipline. The few offenders to discipline are dealt with by a form of court-martial, and the court is formed from the boys themselves.

My own visit gave me the opportunity to watch this idea and ideal working. I arrived to see Aberdovey in the half-light

of the evening, which enhanced its beauty. It is set in the delightful country we associate with that part of Wales.

The chief executive officer, Mr. Sparks, an experienced officer of the Blue Funnel Line, came to see me at my hotel that evening. He is a man who has himself had to take to a raft in the open sea during the war—an experience familiar to most of his colleagues also. Here he explained much of what I have already written. Then, next morning and for the rest of the day, he and Dr. Zimmerman, the resident director, took me round to see all that the “watches”—for that is how each group of boys is known—were doing by way of training.





THE BREECHES BUOY *in use during rocket rescue drill, with an I.C.I. student as the victim*

Their day started with a cold shower—if I were to say a freezing shower I should not be far out for that morning. To have this shower each morning, together with a gentleman's agreement not to smoke or drink, is an obligation which each boy, personally and in turn, must undertake to observe while standing on parade before the Red Ensign of the Merchant Navy.

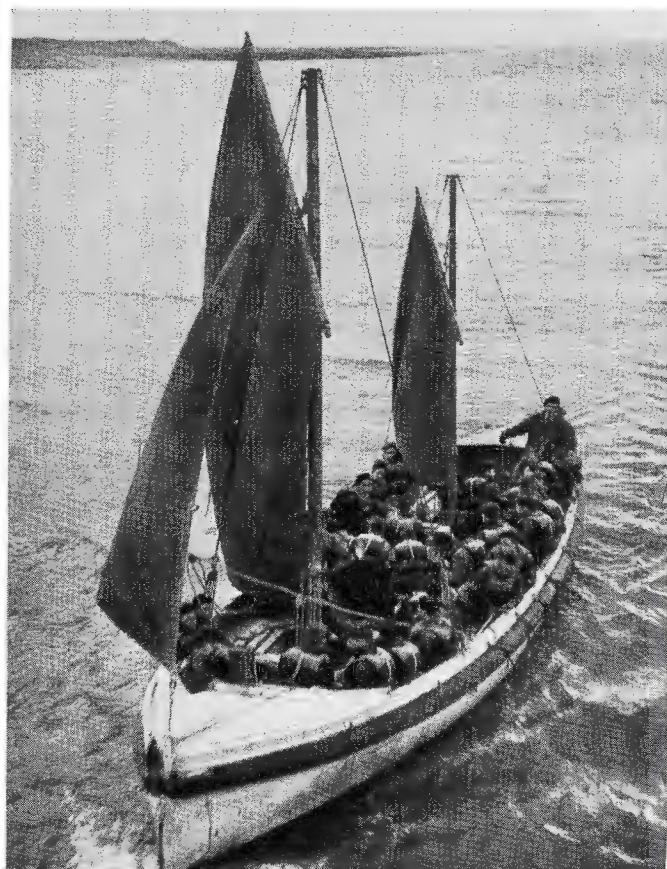
The training, as will be seen from my photographs, embodies much that is dear to any true-hearted boy. It includes running,

jumping, throwing the javelin, putting the weight, high jump, swarming about on ropes, fire-fighting, rocket and breeches-buoy rescues (for which the school is a properly accredited unit for action in real disaster if required), and the handling of boats, from a canoe up to a ketch of 70 tons.

This training progresses on land and sea until in its final phase the boys do a 32-mile cross-country walk with the aid of compass, map and the experiences they have absorbed. During the course they man the sailing vessel *Warspite*, under a captain who appeared to me to be the embodiment of the best in the old sailing masters. The trip in Cardigan Bay lasts for several days and nights.

Training in seamanship must therefore be practical and thorough: and it is. On all days several small boats can always be seen off this shore, where experience is gained first-hand, and even the photographer got some of it! One morning I found myself out in what was lightly described as a fairly roughish sea; nevertheless I was lashed to the mast of my boat, while two others sailed round at my request to allow me to photograph them. I felt something like a budding gallant admiral for a while! However, before I got ashore again I was feeling a mere photographic cameraman with a highly increased respect for Drake and Nelson, to say nothing of those boys. Fortunately I was able to preserve my dignity, to say nothing of my breakfast!

Throughout the course each boy is continually encouraged to improve on his previous standards, and at the conclusion of the course badges are awarded on merit for performance,



HANDLING OF SMALL BOATS *is one of the things taught in the school. Preliminary instruction is here being given in the school's lifeboat.*





AN INDOOR CLASS. *The chief executive officer giving instruction on a model of a ship's winch. Several boys pictured are I.C.I. students.*

and those able and lucky few who attain the silver badge also have their names inscribed on the Roll of Achievement in the messroom.

These badges are treasured. They are to be found the world

over. Trainees from this school go out to distant lands, upholding the prestige of Britain everywhere, in the ships in which many of them serve and in the professions, industries and trades in which they play their part.



CANOEING IN CARDIGAN BAY, *perhaps the most popular of exercises*



PUTTING THE WEIGHT, *one of several athletic competitions*



# Easy Money in Alaska

By C. S. Loughnane (Pharmaceuticals Division)

Situated partly inside the Arctic circle, Alaska is a tough man's country. The state, which is territorially the largest in America, leaped into fame in the '90's, when gold was discovered. Today it is of significance because Alaska is separated from Russian Siberia only by the narrow waters of the Bering Straits. In this article Mr. Loughnane, who is now I.C.I.'s representative in the Near East, describes what it is like to earn a living in Alaska.

I WANTED to take the opportunity of finding myself in the real Alaska, of which I had heard so much, to try one of the mining camps in the interior. There were all kinds of vacancies in gold mines, coal mines, road construction companies, etc., as although men were continually being drawn from the States by the catchphrase "Easy money in Alaska," many of them soon returned, as they found that cost of living was high, amenities few, and the winters long and extremely severe.

After a short interview in a Fairbanks office and a medical examination, I was taken on as an unskilled labourer at \$1.25 per hour by the Livengood Placer Company and told that I could start work as soon as I could get to the camp at Livengood, some hundred miles further north. As a result of this, the following piece of typical highly coloured American journalism appeared in the *Fairbanks Daily Miner*:

## VET FROM INDIA WORKING IN ALASKA GOLD OPERATION

Working in an Alaskan gold mine is a far cry from his former occupation as a pharmacist in India, Ceylon and

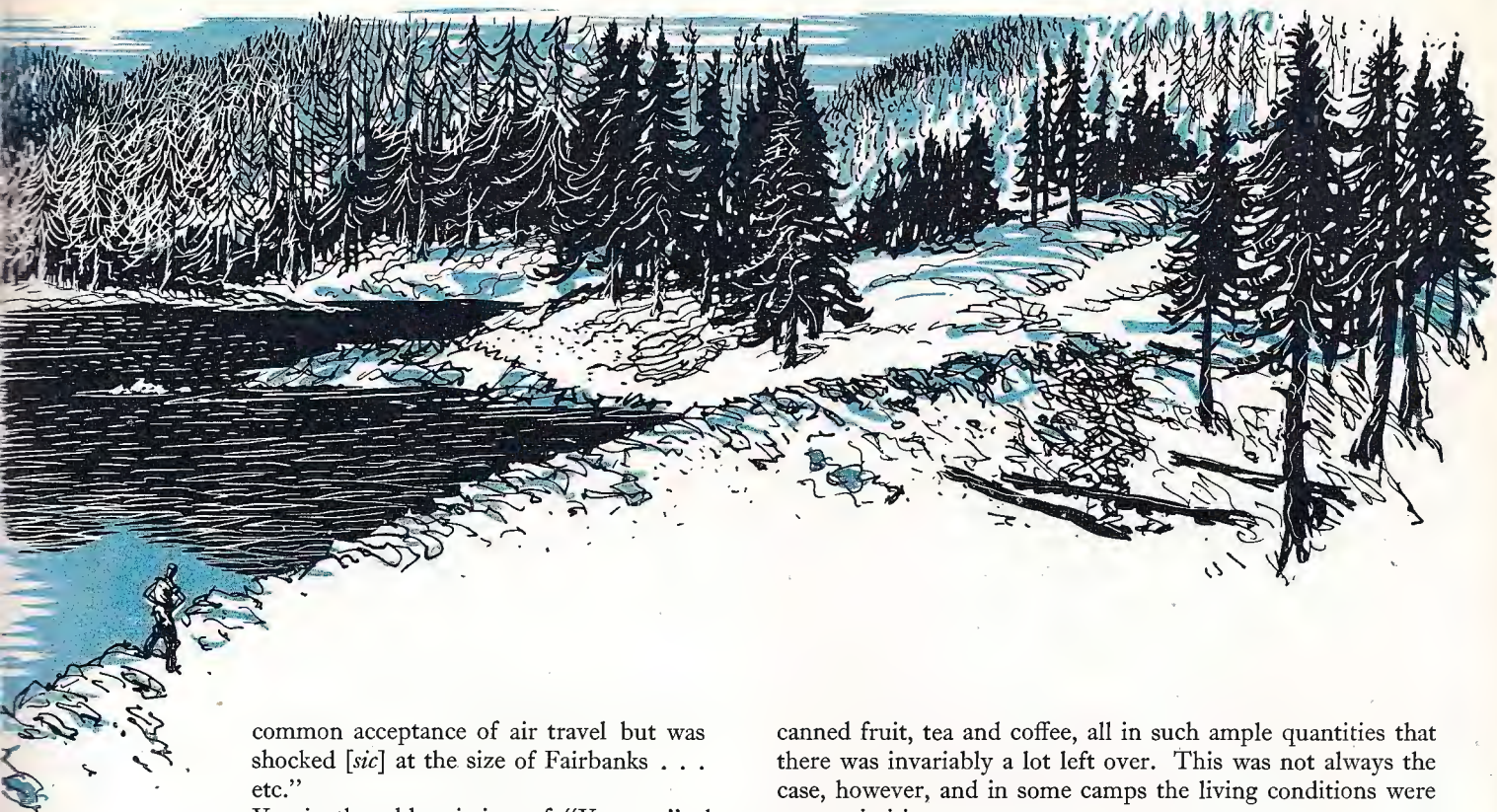
Tibet, but Clary Loughnane is doing just that. He came to Alaska the middle of August to pan a little gold, but found upon his arrival that gold didn't litter the streets nor lie idle in nearby fields. So he took a job with the Livengood Placer Company.

Because he is fond of out-of-the-way places, Loughnane came to Fairbanks shortly after his discharge from the Royal Indian Navy. He was amazed at the



... we vied with each other in lifting the biggest pieces of rock





common acceptance of air travel but was shocked [*sic*] at the size of Fairbanks . . . etc.”

Vet is the abbreviation of “Veteran,” the American term for an ex-service man. I need hardly add that I have never practised pharmacy in Tibet, nor did I expect to find gold in the streets or fields.

The office had told me that two other employees were going to Livengood with me, and on calling on them at a low-class rooming-house I had my first actual contact with the typical Alaska “bum.” There were several beds in what was practically a cellar, which was extremely dirty and littered with empty bottles and cigarette ends. In case you should ask about the state of the bed-linen, there was none, only a few dirty blankets on which sprawled fully dressed in dirty clothes—my two “colleagues,” unshaven, with bloodshot eyes, and, of course, tight as ticks.

We were very soon away from habitation, traversing a rough road through wild, desolate hills covered with stunted spruce and under leaden skies with occasional downpours of rain. The few derelict log cabins deserted by bygone prospectors enhanced the unutterable dreariness of the great expanses, and our spirits were not improved by a fierce skid in the loose wet surface of the track, which took the car right into the brush, miraculously without damage.

Livengood, only 60 miles from the Arctic Circle, was a settlement of about twenty log cabins and a couple of saloons in a desolate valley and owed its existence solely to the mining company, which, however, was practically self-contained. All the workers lived in a large bunkhouse, which contained cubicles with nothing more than two or three beds and a few shelves in each, and a large dining hall of long trestle tables and benches.

I had long ago learned that the American took certain conveniences with him wherever he went, and I was not greatly surprised, therefore, to find here in the wilderness hot and cold showers, electric light and an abundance of good food. At breakfast, for example, there was the U.S. hotcake with maple syrup, eggs and bacon, toast, butter, marmalade,

canned fruit, tea and coffee, all in such ample quantities that there was invariably a lot left over. This was not always the case, however, and in some camps the living conditions were most primitive.

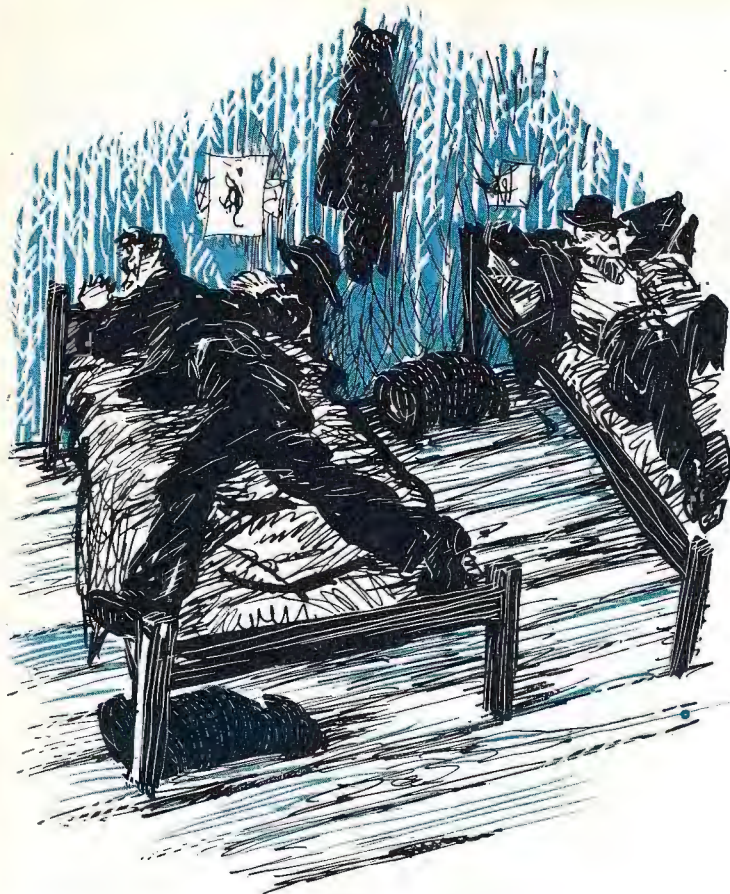
A gong woke the camp at 6 a.m., breakfast was at 6.20, and by 6.45 everyone was piling into trucks and pick-ups to get to their respective jobs in different parts of the workings, which were spread over some ten miles. Lunch was from 12 to 1, and in the afternoon work was stopped in time to enable everyone to be back in camp by 5 p.m. to clean up for supper at 5.30. This meant nine hours work a day, which was carried on without a break for seven days a week. Since the only entertainment was drinking, no one wanted a day off, and I was told that this was the case throughout Alaska.

I should explain here that this was placer mining (as distinct from rock mining), in which the gold is found as the pure metal in the soil. The old prospectors employed two or three different methods for washing away the heavier earth and gravel, but each method relied for the final extraction on a pan which was manually rotated to wash away the remaining dirt, leaving the “colour,” as the gold is termed, behind. This was, of course, inefficient and only paid in the case of heavy deposits near the surface, and it was these that caused the gold rushes of ’89 and thereabouts.

With modern equipment, however, it is an economic proposition to work with a low percentage of gold, and this was the case at Livengood. Some ten miles from the workings a dam had given a reservoir to provide water under pressure which was directed through huge nozzles on to the useless soil known as the overburden, which had to be washed away to a depth of some fifteen feet. During this process more than one mammoth’s tooth was found. The gold-bearing soil was then brought up by a dredge in which were extractors to obtain every particle of the so-called precious metal, the love of which, St. Paul tells us, is the root of all evil.

The first few days I was employed in dismantling these nozzles as soil was washed away and re-erecting them elsewhere, and they were some of the dreariest days I have ever experienced. In order to steady the nozzles against the water pressure they were anchored to a “dead man”—a baulk of





... my two colleagues ...

timber buried some four or five feet in the ground—and unearthing this thing and digging a trench for “him” in another place in mud and pouring rain, with around us the distressingly dismal prospect of the great ugly chasms which had been washed out made me think of the poet who talked of the nobility of toil.

The Americans have standardised nicknames—Chuck for Charles, Al for Albert, Red for anyone with sandy hair or colouring—and inevitably I was “Slim” from the first day. I had few language difficulties, since I had become proficient in Americanese in the States, even to carrying on a conversation. For example, I ask the way to an office, receiving the reply “Two blocks (pronounced “blarcks”) north and then west on main.” I answer “Thanksalot.” My informer leaves me with “Take it easy, fella,” to which I reply “Youbetcha”; although I well remember the occasion when a Chicago policeman told me that my destination was some distance away and I started to say that I would go the next day. I had only got as far as “I won’t go . . .” when he angrily interrupted with “Next time you don’t want to go some place, don’t waste a policeman’s time” and stalked off in high dudgeon, still muttering.

During these first few days I came to know many of the other workers, who were divided into three quite distinct classes. There were students of various universities in the States working during their vacation, as is usual in the land of free enterprise; there were the ordinary labourers, mechanics, managers, etc., who felt that for one reason or another they might as well work in Alaska as anywhere else; and then there were the “dead-beats.”

The latter were an interesting class seldom encountered in the Old World. Without any kind of intelligence, emotions,

aims or thoughts, I thought most of them slightly subhuman, and they only had one idea in life—it can hardly be called a purpose—to work in a camp for a few weeks, or more rarely a few months, to obtain sufficient money to go to the nearest town and remain dead drunk until they had spent every cent. One man, a very young man at that, assured me that he thought nothing of spending a hundred dollars during one of these evenings.

The pair who went to Livengood with me were typical examples. On arrival at the settlement, without reporting to the camp, they went straight to the first saloon, said they had obtained work and asked for a pair of “shoepacs” each on credit. (These were the Alaska long lace-up leather boot partly encased in rubber.) They then went to the other saloon and exchanged the shoepacs for whisky, which was sufficient to keep them drunk all the following day, and when the next day they were still unfit for work they were fired. As they had no money to pay for the ride in the occasional truck into Fairbanks and could of course obtain no more credit, they set out to walk and were never heard of again.

Among this class was the occasional misfit who, although once having been a man of position, had found one aspect or another of modern life too much for him and had sought respite in Alaska’s freedom from convention. There was one of these in the camp who had had some responsible position with a firm of car manufacturers and knew England and Europe well. When sober he was an intelligent companion, and he



... next time you don't want to go some place ...





*... water under pressure was directed through huge nozzles into the useless soil*

once confided to me that his reason for flight from life was his wife's social ambitions. He had become so thoroughly tired of the round of parties that he had left her and was working as a "bull cook," the cook's helper who tends the fires, sweeps the bunkhouse, etc. After a few weeks of sobriety he hit the bottle, and attempting to walk back from the saloon one evening fell by the roadside, where he slept through the cold wet night. Upon awakening, of course, he retraced his steps to the saloon and proceeded to spend his earnings in a bout which lasted a week, and the last time I saw him I remember he staggered up to me saying, "We're still friends, aren't we? I know I've been drinking, but I must get away from convention."

From time to time I was put on other work—splitting logs, loading trucks, and finally "rip-rapping" the dam of the reservoir. This was my most enjoyable period, as the reservoir was situated among low hills covered with spruce, willow, alder and birch, which with the end of the short summer in August were in their full glory of gold and crimson.

For this work we had first to load rocks from the hillside on to a truck to be taken to the dam and we vied with each other in lifting the biggest, as a result of which my chest and arms came up as they had not done for years, and I was so fit that even after nine hours like that we sometimes walked up into the hills looking for moose and caribou to shoot.

On this job were two so-called "natives," a term used to describe Indians, Eskimos, or of either mixed with white blood. Brought up in a small village and never having been outside Alaska, they had a strange, childlike mentality and little perception of right and wrong. For example, a wooden chute was built to convey the rocks down the dam face, and they took a boy's delight in so dropping the rocks into it that parts of it were smashed.

It was during this period that I began to climb the ladder of

success, for one morning our foreman, Ace by name, was drunk and summarily fired by the manager, who asked me if I would take charge for the day. Had I achieved this greatness, I asked myself, or was it being thrust upon me? Although it was only for the day, I did retain the job of driving the men in the pick-up to the dam and back again in the evening, which brought me in a few extra cents. As anything over 44 hours in the week counted as time and a half, I was earning \$90 a week, out of which I paid only a nominal messing charge and taxes.

Among the men who at one time joined me on the dam were two Yugoslavs, one of whom was a keen supporter of Tito, although denying that he himself was a communist, while the other was very anti-Tito, and it was a simple matter to obtain a break from work by starting these two on an argument, for everyone stopped to listen. The Titoist one day stated that the U.S.A. was the most uncivilised country in the world, and upon my asking him why he instanced the occasional negro lynchings. I thereupon asked him why he did not go back home, but he rather weakly replied that he was unable to obtain permission to leave the States.

The transient autumn was now giving place to winter, and even in the middle of August it froze during the night, so that by the middle of September there were twelve degrees of frost at night and a biting north wind kept the temperature near freezing point all day. In a few weeks the land would be in the grim grip of the six-months-long winter, when the normal day temperature never rises above  $-60^{\circ}$  F. Before this freeze-up, as it is termed, set in, I wanted to go further north, so somewhat regretfully I said farewell to the camp and left Livengood the better off by quite a lot of hard-earned cash, which at the time appeared like hard currency, but in retrospect and from this distance seems more like "easy money in Alaska."



# Harry Isles

(Alkali Division)



His people have been farmers for generations, and for the first few years of his working life it looked as though young Harry was to tread in the footsteps of his forefathers. He recalls how, when still quite a youngster, he used to drive a float of milk churns to the station every morning and, after his fine cart-horse was commandeered at the outbreak of the 1914 war, he lost patience with farming; in a few days—on 14th August, 1914, to be precise—he decided to follow his horse's example and joined the army, the only difference being that he went as a volunteer.

Five years of service followed; this was mainly spent in the Middle East. He was twice wounded at the Dardanelles, but nothing could keep a person like Harry down for long. Wherever he was he always took life as it came, the rough with the smooth—a maxim that carried him safely through the war. "Anyway," he added with a twinkle in his eye, "I always reckoned I was too wicked to be killed, so I never worried."

By 1919 farming had completely lost its appeal for Harry, and after his demobilisation he started at Fleetwood Works, loading and discharging cargoes at the jetty. Now a leading hand, he is on the job at all hours and is a grand worker.

Harry is what you might call an old stager in Works Council matters. When the scheme was set up after the incorporation of I.C.I. he was elected to Fleetwood's first Works Council. In those days it was under the chairmanship of Mr. W. F. Lutyens, then the Fleetwood general manager, and Harry recalls an amusing incident at one of the earliest meetings. He was just bracing himself to propose an important vote of thanks to the Main Board for flood relief money sent to Fleetwood employees when an unexpected stroke of fate released him from his duty: a marquee that had been erected in the grounds outside the window collapsed, and the Council rose as a body, rushed out, and helped to put it up again—probably the only occasion when an entire Works Council has been seen to "work."

Harry has many happy memories of his times as a works councillor. For the past sixteen years he has served continuously as Yard and Jetty representative and has been re-elected again this year. He has attended the Division Council on five occasions and the Central Council twice, and he is also a trustee of the Lawson Memorial Fund. In this way he has rubbed shoulders with I.C.I.'s highest officials and has enjoyed every minute of it, for he has that sturdiness of character and independence of outlook that make him liked and valued wherever he may go and in whatever society he may mingle. He is one of the old-fashioned type: he believes in getting on with the job, whatever it is, and cutting the cackle.



# I.C.I. NEWS

## THE TWENTY-FOURTH ANNUAL GENERAL MEETING

THE twenty-fourth annual general meeting of Imperial Chemical Industries Ltd. was held on 14th June in the Wigmore Hall, Wigmore Street, London. Mr. John Rogers, O.B.E., Chairman of the Board, presided and about a hundred stockholders were present.

In his opening remarks Mr. Rogers paid tribute to the work of Lord McGowan, Honorary President of I.C.I., who was present with him on the platform. He said:

For the first time in twenty years our annual general meeting is being held without Lord McGowan in the chair. The Board have paid tribute in their Annual Report to the outstanding services which Lord McGowan has rendered to our Company and to British industry throughout a long and distinguished business career dating back to 1889, when he joined Nobel's Explosives Company Ltd. in Glasgow. Lord McGowan's resignation at the end of last year from the Board of the Company and from the office of Chairman is a sad loss to the Company and to his colleagues on the Board.

When Lord McGowan succeeded to the chairmanship on the death of the first Lord Melchett in December 1930, industry was in the trough of one of the worst trade depressions in the history of this country; but under Lord McGowan's inspiring leadership and wise guidance the Company emerged safely, and when he laid down the burdens of office it must have been a source of great pride and pleasure to him to reflect that in 1950, after twenty years under his chairmanship, the Company had achieved the highest turnover and profits in its history. It is not surprising, after so many years of arduous work and responsibility, that Lord McGowan should seek some respite, but I am pleased to say that he has accepted the Board's offer to become the Company's Honorary President, and it is in that capacity that he is with us on the platform today.

You will notice that the turnover for 1950 was a record. Consolidated sales at £220,000,000 were more than 20% higher than those in 1949. Although part of the increase is due to increased prices, I am pleased to say that the greater part is attributable to an increase in the physical volume of our business. Exports were 25% more than in 1949, and were running at the rate of about £1,000,000 a week during 1950.

It is not unnatural that with these increases in the volume of business the net profits of the Company should rise. Your Directors do not take the view that the profits made in 1950 were excessive. During a period of rising prices it is difficult to get a clear picture of what profits are needed to be put to reserve in order to make sure that we have sufficient resources to maintain our manufacturing assets in an efficient working condition. It is for this reason that the manufacturing assets

have been revalued and the depreciation charge in the accounts based upon the new values. When full account is taken of what is necessary to replace these manufacturing assets at present-day costs of construction and also of the amount of capital needed to finance stocks at present-day prices, it will be seen that the profit made in 1950 was sufficient only to enable the Company to make these necessary reserves and to pay moderate dividends.

You will also have noticed that the revaluation of assets has resulted in a very big increase in the capital reserves shown in the Balance Sheet. These reserves at 31st December, 1950, amounted to £118,000,000 against £17,000,000 a year before. Since we are firmly convinced that realistic figures for assets should be matched by realistic figures for capital, it was the intention of your Directors to capitalise a substantial part of these reserves and to make an issue to stockholders of shares credited as fully paid which would have brought the figures for issued capital more into line with reality. An application was accordingly made to the Capital Issues Committee for the issue of such shares under a comprehensive scheme. We have been notified, however, that His Majesty's Treasury is not prepared to give consent to this comprehensive scheme. No reason was given for the refusal.

In the meantime the Company's business continues to expand. Expenditure on research and development is now running at the rate of about £5,500,000 a year.

In the immediate future the Company will share with the rest of British industry those difficulties which arise from shortage of essential raw materials. Three of the materials in short supply which affect the Company's manufacturing operations are sulphur, non-ferrous metals and benzene. So far as sulphur is concerned the immediate position is assured, but there is no margin for expansion and the future is uncertain. In concert with other companies we are exploring every possibility of using raw materials other than natural sulphur for the manufacture of sulphuric acid.

Your Company has for many years manufactured sulphuric acid from anhydrite—a raw material which the natural resources of England can provide in large tonnages; but projects such as the erection of a plant by the United Sulphuric Acid Corporation Ltd., in which your Company has an interest, to extend sulphuric acid manufacture from this raw material can make no contribution to the solution of this problem for at least another two or three years.

The supply of non-ferrous metals has been dominated by stockpiling for rearmament purposes, particularly in the United States of America. There are signs that the peak of



the demand for stockpiling has been passed, and if this proves to be so then some gradual improvement in the position may be expected.

Refined benzene is required in many branches of our activities, and we are producers as well as consumers. The present world shortage is a source of apprehension to us. In conjunction with other United Kingdom producers we are taking steps which will, we believe, make a material contribution to relieving the short-term position. So far as the long-term position is concerned, we have it under very careful study and are planning measures which we believe could be brought into operation as and when the necessity arises.

Our prospects for 1951 are bright, but each year brings its own special problems, and the role of prophet is a dangerous and thankless one. I will not assume it today. I can, however, say that the results for the first quarter of 1951 are encouraging. Turnover for that quarter was 20% higher than that in the corresponding quarter of 1950.

1950 was a year during which all sections of our organisation worked smoothly with a corresponding advantage to our financial results. Not least of the factors making a contribution in this direction is the relationship which exists between all sections of those working in I.C.I.

I returned a few days ago from presiding over one of our six-monthly meetings of the Central Council organised under our Works Council Scheme. I regard that scheme as contributing in a large degree to the successful and happy relations which have grown up between all sections of I.C.I. people, and it is indeed a pleasure for me to meet people from all our works dispersed throughout the United Kingdom—payroll workers as well as management—in the free and frank atmosphere which characterises those meetings.

We are justly proud of the very fine organisation known to the world as I.C.I., but the most important part of that organisation is not our modern factories, warehouses and offices, but the magnificent body of men and women who work in them.

The Directors' Report and the Accounts were adopted. The dividend resolutions in respect of the Company's preference and ordinary stock were passed, and the retiring directors Sir John Anderson, Mr. S. P. Chambers, Dr. A. Fleck, Mr. H. O. Smith and Sir Arthur Smout were re-elected. A vote of thanks to the Chairman, Directors and employees of the Company, proposed by Mr. A. W. Cozens (stockholder) and seconded by Mr. R. H. Binsted (stockholder), was carried unanimously and acknowledged by the Chairman.

### *Work Study Conference Dinner*

At the sixth work study conference dinner held in the Dorchester Hotel, Park Lane, the first function of its kind he has attended in his capacity as Honorary President, Lord McGowan paid tribute to the loyalty and splendid teamwork of all in I.C.I.

Lord McGowan, who proposed the toast "The Company," said that he was no longer Chairman, but as Honorary President he could now take a new interest in many of the Company's activities. During the course of his speech he said that no chairman ever had a better board of directors, nor better management, or such a magnificent body of workers.

With a peak of 135,000 employees during the war period and 100,000 now, production had proceeded with remarkable smoothness. This was due to the efforts of the management, the trade union leaders, and the workers. He had always

developed the thesis of human relationship and the human being's claim to good fellowship. We would have to continue the furtherance of human relations if we were not to slip back.



*Lord McGowan speaking at the Work Study Conference dinner. With Lord McGowan are Dr. R. Beeching ('Terylene' Council) and Mr. N. B. W. Rose (Alkali Division).*

Tonight he met the work study officers after their hard day's work discussing the problems of productivity. There was no doubt of the great value of work study, including proper incentive schemes. It seemed to him that this approach not only offered the possibility of more pay to the worker, but also gave scope for developing a wider interest on the part of all concerned in the human, as well as in the technical, aspects of industrial operations. Tact was of great service to management and workers alike; tact was as valuable as knowledge—the gentle touch.

He had recently seen figures showing the impressive progress which I.C.I. had made in raising productivity, and he hoped that other companies were following this lead. It was not only in this country that efforts were being made to achieve such improvements—in a 35,000-mile plane trip Mr. R. M. Currie, head of the Work Study Section of the Technical Department, found problems very little different from those which we had here. This was natural and showed that we could do as well, he would say better, than any other country if we set ourselves to the task. All those engaged in this work had a major job to do, and he wished them continuing and increasing success.

He saw no unemployment in this country for a long time to come, and we could therefore only have more of the things we all wanted by achieving higher output per man-year from all those engaged on industrial work, whatever their jobs might be.

Sir Ewart Smith, who proposed the toast "The Honorary President," said that in his view training was a whole-life affair, and it should not stop at any stage of a man's career. One of the important things which a man should learn was how to choose the right boss; in this respect how wise they had all been to work under the Honorary President.

Lord McGowan was giving up his responsibilities when the Company was at the top of its form. He did not know any



productive industry in the country which could be compared with I.C.I., or with their success in keeping down the relative price of all their products in spite of the general inflation which was taking place. In their special drive on work study they had had no stronger backer than Lord McGowan, and all those present owed him a great debt for that help.

Among the other speakers at the dinner Dr. A. Fleck, a deputy chairman of I.C.I., referred to the good work of Mr. R. M. Currie and his staff; and Dr. W. J. Jenkins, deputy chairman and managing director of Nobel Division and chairman of the conference, proposed the toast "The Work Study Officers."

### *Pensions Department Appointments*

Mr. John A. L. Young has been appointed head of Pensions and Assistance Funds Department, with effect from 1st July.



Mr. Young joined I.C.I. in August 1935 soon after qualifying as a chartered accountant, having served his articles with Thomson McLintock & Co. He joined the Merger Accounts Section of the Treasurer's Department and was later transferred to the General Section, where he remained until the outbreak of war.

As a Territorial he was immediately called up and served with the London Scottish Regiment until 1942, when he was posted to the British Army

staff in Washington. He reached the rank of Lieutenant-Colonel and was awarded the United States Legion of Merit.

He returned to England for demobilisation at the end of 1945 and rejoined the General Section of the Treasurer's Department. In October 1947 he was transferred to Pensions and Assistance Funds Department and became secretary of the various pension funds and of I.C.I. Savings Bank.

Mr. E. R. Lightfoot has been appointed deputy head of the department. Mr. Lightfoot joined one of the constituent companies of the Metals Division in 1910 and was transferred to the Pensions Department in 1928, shortly after its formation.

### *Mr. Charles Ling*

A presentation was made on 3rd April to Mr. Charles Ling (Treasurer's Dept.) on behalf of his colleagues, who had gathered to wish him well on his retirement from the Company. Mr. Ling joined the Welsbach Light Company Ltd. in 1904, and of his 47 years' service he spent 25 with that Company. He was transferred to I.C.I. Head Office in 1929, where he was a member of the cashier's section.

Charles Ling takes a great interest in theological discussions and has an inventive turn of mind, and we wish him happiness and good health in which to pursue his interests.

### *City of London honours I.C.I. Man*

Mr. I. L. Owen Ellis (Pensions and Assistance Funds Dept.) was admitted to the Freedom of the City of London on Thursday, 14th June.

Mr. Owen Ellis's family has been associated with the City for generations, and his own business career started in Lombard Street twenty-five years ago. He has taken an active

interest in the life of the City and was for some years a member of the City of London Police (Special Branch), including the troublesome times of the General Strike of 1926.

Mr. Owen Ellis joined the Treasurer's Department, Head Office, in 1935 and was transferred to his present department in 1938.

A keen believer in maintaining the old traditions, Mr. Owen Ellis has been a member of the Society of Genealogists and the Dorset Archaeological and Genealogical Society, and was an official searcher for the College of Heralds.

## ALKALI DIVISION

### *The Festival Sports*

Perhaps never before has I.C.I. transport carried so fair a burden as at the Alkali Division Athletics meeting, held for the first time at the splendid new ground at Moss Farm.

During the meeting there took place the crowning of Miss Beryl Lamb as Northwich Festival Queen, an opening event of the Northwich Festival of Britain Week. The Festival Queen, with her ladies-in-waiting, was drawn to her throne by a



*Miss Beryl Lamb (Northwich Festival Queen) with Mr. W. F. Lutyens (Group Director) and Mr. Sam Williams (Chairman, Northwich Urban District Council)*

shining, flower-decked wagon. They presented a most attractive contrast with the plainly clad athletes around them. Navy, Army and Air Force cadets formed a guard of honour.

After the crowning ceremony, which was performed by Mrs. Sam Williams, the Festival Queen was presented to Mr.



W. F. Lutyens, Group Director and to Mr. W. M. Inman, Alkali Division Chairman, and Mrs. Inman, by Mr. Sam Williams, chairman of Northwich Urban District Council and Winnington Works Safety Officer.

### M.V. "Thorium" Salvaged

In the March issue of the *Magazine* we reported the sinking of M.V. *Thorium*, the biggest and second newest of the Alkali Division coastal craft. Now, after an eighteen-week fight by salvage experts, she has been refloated and towed into Fleetwood. Battered by gales since she sank on 12th January, she



*A tug moving into position to tow the salvaged Thorium*

looked surprisingly well to the onlookers welcoming her return at the quayside. But they were unable to see her port side, which had been badly buckled; Mr. Tom Maughan, the salvage officer for the Liverpool firm responsible for saving the ship, said that it was fortunate her condition was no worse, for although the weather had been bad he was afraid that one really good blow might have broken her back.

### DYESTUFFS DIVISION

#### Mr. G. B. Jones, M.B.E.

The retirement of Mr. G. B. Jones on 30th June after 34 years' service with the Company breaks another link with the early days of the Dalton Works of Dyestuffs Division. (The foundations of Dalton Works, Huddersfield, which is now the largest factory for the manufacture of dyestuffs and intermediates in the British Empire, were laid in 1915 at the time when British Dyes Ltd. took over the old-established firm of Read, Holliday and Sons at Turnbridge, Huddersfield. This latter firm, founded in 1830, were pioneers in the development of the synthetic dyestuffs industry.) Mr. Jones, who



joined British Dyes Ltd. in 1917 as Chief Assistant Chemical Engineer to help with the building and operating of plants at Dalton, later became head of the Acids and Primaries Department. He was appointed Assistant Works Manager in 1928,

Works Manager two years later, and in 1948 General Works Manager.

Although Mr. Jones has given so much of his life to Yorkshire he is in fact a native of Staffordshire and was born at Smethwick. The son of an accountant, he was educated at King Edward's School, Birmingham, and at Manchester University. His first job was in 1911 as a chemist in the Coventry Corporation Gas Department, of which he later became Assistant General Manager. During the early years of the 1914-18 war he was attached to the Ministry of Munitions on work connected with benzene and toluene supplies from gas and coke ovens and for a time was Research Assistant to Sir Oliver Lodge at Birmingham University, on oil-cracking processes.

Welfare of his employees and the affairs of the town in which he made his home have been two of the great interests in Mr. Jones' life. One of the founders of the Huddersfield Recreation Club, he was also a member of the original Huddersfield Works Council set up in 1929, and has been chairman for the last twenty years. He has also been a member of every Central Works Council to date. His outside activities cover a very wide field and include membership of the Industrial Products and Health Research Committee, and the Management Committee of the Royal Infirmary Board. He is vice-chairman of the Yorkshire Section of the Society of Chemical Industry, chairman of the Leeds-Hull Academic Board for Advanced Technology, and chairman of the Huddersfield and Halifax District Committee of the East and West Ridings Regional Board for Industry. His services to the public were recognised in this year's King's Birthday Honours list by the award of M.B.E.

Perhaps Mr. Jones' greatest spare-time interest has been his local government work as a member of the Huddersfield Borough Council, on which he was co-opted in 1940 in order to serve on the Borough A.R.P. Committee. He joined the Council as an elected member in 1945 and has now received the high honour of being elected Mayor of Huddersfield.

### England Player Out First Ball

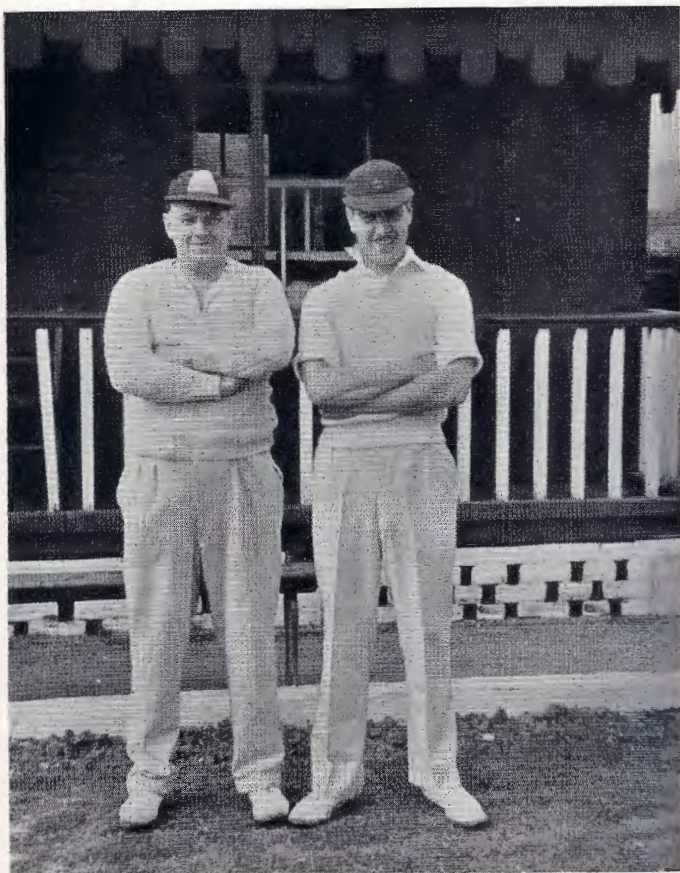
The Huddersfield Works cricket team evidently command respect in some quarters, since Wakefield, for their match against the I.C.I. team on 2nd June, thought fit to include John Wardle, the Yorkshire and England player, in their team.

With his first ball Bill Hirst, Huddersfield's all-rounder, tempted Wardle, coming in at number four, to edge a good-length ball into Len Denton's hands behind the stumps. The large crowd assembled on the Wakefield Cricket Ground were stunned into silence, and Wardle grinned good-humouredly as he started back to the Pavilion. Dyestuffs Division cricketers gloated in their triumph, while Hirst began a rehearsal of the story he would tell to his family.

Needless to say, Huddersfield's triumph was short-lived, for Wardle with his spin bowling took six wickets for 37 runs out of a total of 82. Wakefield had previously declared at 192 for six. The end of a most enjoyable day's cricket came with Jack Furze, the team's fast bowler, hitting Wardle for six and Huddersfield's last man surviving for a surprising length of time before falling as the sixth victim of the Test cricketer.

Had one or two difficult, but possible, catches been taken the I.C.I. team might have created a bigger sensation than was suggested by the headline in the *Yorkshire Evening News*: "I.C.I. Shake Wakefield—Wardle is Out First Ball."





*Bill Hirst (left) and Jack Furze*

### *Netball Champions*

One of the most successful sections of the Recreation Club at Trafford Park Works—and perhaps at any of the Division's



*The Trafford Park netball team, 1950-1 league champions and cup holders. Left to right: Miss J. Kirk (Analytical Dept.), Mrs. D. Wolsey (Analytical Dept.), Miss M. Dowling (Penicillin Dept.), Miss J. McCaig (Analytical Dept.), Miss M. Harding (Analytical Dept.), Mrs. D. Kirkham (Analytical Dept.) and Miss D. Price (Analytical Dept.).*

works—is the Ladies' Netball Section, formed just over two years ago.

In their first season, in the Urmston and District Netball League, the team won the League Championship Shield and were beaten by only one goal in the cup final. This year they did even better; they made the only improvement possible, and besides winning the League Championship Shield again they won the cup by beating Urmston Catholics 21-13 in the final on 26th May. During the season they won 25 matches out of their four cup-ties and 22 league games, and in these they scored 674 goals against 263 goals.

All but one member of the team are from Analytical Department, and they are all under 25 years of age. Mrs. D. Kirkham, Miss J. McCaig, and Miss D. Price have played regularly throughout the last two seasons, and they have been responsible in no small measure for keeping the team continuously on the winning side.

## GENERAL CHEMICALS DIVISION

### *Dr. Fleck unveils Castner Memorial*

A memorial plaque to Hamilton Young Castner was unveiled by Dr. A. Fleck, a deputy chairman of I.C.I., on Friday, 15th June, at Castner-Kellner Works, Runcorn. Among the distinguished guests present, all of whom had had close connections with the works, were Mr. E. Otho Glover, Mr. J. Williams and Mr. J. W. Moore. The ceremony was attended by a representative gathering of employees, including many works councillors. Visitors from Division headquarters included Mr. G. K. Hampshire, Mr. F. Holt, Dr. J. Ferguson and Mr. T. Wallace.

Mr. Shaw in introducing Dr. Fleck said that Hamilton Young Castner was a chemist of distinction who established an international reputation, particularly on the two sides of the Atlantic Ocean, and today numerous factories throughout the world stand as monuments to him. "Of these," said Mr. Shaw, "the one which we operate and have helped to build is probably the finest; but nevertheless it has been felt that a memorial of a more personal character should exist in this district which owes so much to him.

"It is a singularly happy circumstance that it will be unveiled by Dr. Fleck, for Dr. Fleck has much in common with Castner. He also is a distinguished chemist; much of his working life has been intimately connected with processes which were started by Castner; and as a deputy chairman of I.C.I. he enjoys an international reputation. But for us assembled here, Dr. Fleck's name has a special significance—at one time he worked at this factory and later he was the first managing director of our Division."

In the course of his speech Dr. Fleck said:

"The plaque that I am about to unveil is a duplicate of one which was placed in Columbia University, New York City, as long ago as 1902, that is within three years of Hamilton Young Castner's death. We must pay homage to the quickness with which his friends in the U.S.A. realised the magnitude of the achievement which he had made to the chemical industry.

"I could mention several technologists whose names are particularly associated with one or other process, like Solvay in the manufacture of sodium carbonate, or Haber in the manufacture of ammonia, but it is difficult to think of a name which would rival Castner's in the number of processes to which his name is attached.





*Dr. Fleck unveils the memorial plaque, watched by Mr. G. K. Hampshire and Mr. H. Shaw*

"Just think of it: Castner's electrolytic chlorine; Castner's sodium process; Castner's peroxide; Castner's cyanide; Castner's graphitised anodes. All these five processes are substantially different, and all have left their imprint on the chemical industry. The mind that could evolve these, the brain that could organise them, deserves to be described as something more than outstanding, and I would hope that you would agree with me that Castner is worthy of something far higher, and that we are doing him no more than justice if we recognise him as truly a genius of the modern chemical age.

"His contributions concern mainly the inorganic side of chemistry, and coming in as they did about the end of the nineteenth century they mark very nearly a zenith from the point of view of chemical skill of the chemistry of solid and liquid reactants on the inorganic side; but they have, I venture to think, an even deeper significance.

"They mark the early steps of the entrance into the field of industrial chemistry of the new conception of physical chemistry — electrochemistry, thermodynamics, chemical kinetics—all leading to important chemical industries of today, producing large tonnages under controlled conditions.

"Castner lived only forty years—a short span of life—and in this he was like many other geniuses. But Castner was a scientist to the core, and he had a scientist's satisfaction of a life directed to a definite course of action with defined objectives, and although we must regret that his span of life on earth was very short, we can derive comfort from the words

'But to steer onwards to some purposed haven  
And make new waves with motion of our own:  
That is to live.' "

## LIME DIVISION

### *I.C.I. Research Director opens New Laboratory*

Sir Wallace Akers, I.C.I. Research Director, visited Buxton on 31st May to open Lime Division's new laboratory. Our picture shows Sir Wallace during a visit to the laboratory after the opening ceremony. On Sir Wallace's left is Dr. S. W. Sanders, Lime Division chairman, and on his right Dr. F. P. Stowell, director in charge of research and development.



Situated at Peak Forest, some three miles from Buxton itself, the laboratory is equipped to deal with a wide field of research, in both the manufacture and uses of lime and lime-stone products, which are already used in more than five hundred industrial processes.

## METALS DIVISION

### *Mr. W. Piggott*

On 15th June Mr. W. Piggott retired after almost 46 years' service. He started in November 1905 as a turner in the old Gas Engine Shop and worked there until it closed in 1924. He was transferred to the Fitting Shop and has worked there under Mr. D. Mackie, and finally under Mr. R. Keeling, until his retirement. He was engaged in the training of youths for the last ten years and was made a supervisor in the Apprentice School in 1944.

He has been an all-round sportsman, having played cricket for Smethwick in the Birmingham and District League, and football for various local clubs. He has also been actively associated with the Kynoch Bowling Club for a number of years, playing in both teams.

### *A Successful Shoot*

The National Small-Bore Rifle Association's Scottish Meeting, held at Montrose early in June, was a triumph for I.C.I. shooting men and I.C.I. ammunition. Five members of the Metals Division—Messrs. J. Hall and T. J. Knight (Proof Dept.), A. Traies and W. B. Godwin (Ammunition Dept.) and A. D. Skinner (Engineering Dept.)—representing the City of Birmingham Rifle Club between them carried off first or second place awards in every Class A (the category confined to the most expert shots in the country) individual event.

Mr. J. Hall won five of the principal trophies and emerged champion of the meeting with an aggregate of 1592 points out of a possible 1600—four points above the previous American-held record. Mr. T. J. Knight also shot well all through and



was third with an aggregate of 1589 points. In the International Match, between teams of ten representing England and Scotland, Mr. Hall and Mr. Knight were the only marksmen to score the maximum 300 points. Mr. Skinner won the Members' Cup, again with a maximum score of 300.

An interesting feature of the meeting was that a new brand of I.C.I. small-bore ammunition, 'Tenex,' was used for the first time at a national meeting. The case of the new cartridge is made of brass instead of the more usual copper, new ingredients are included in the loading powder and priming composition, and the bullet is designed on a new formula.

## NOBEL DIVISION

### *Westquarter's 75th Anniversary*

Westquarter's connection with the explosives industry goes back to 1873, although the detonator factory was not founded there until 1876. In 1873 Ardeer began to make explosives and was buying sulphuric acid for the nitroglycerine process mainly from two manufacturers, of which the Westquarter Chemical Company was one. This early link between the two factories was soon to be strengthened. With the manufacture of dynamite at Ardeer a need arose for detonators which could not be satisfied without buying them from Germany or from Messrs. G. Kynoch & Co. of Birmingham.

Soon Nobel began to consider the possibility of making detonators near Ardeer, hoping thereby to reduce costs and improve the standard of the product.

The project was most carefully considered, and a decision was made to start manufacture in the factory of the Westquarter Chemical Company, built on the banks of the Union Canal near Laurieston in Stirlingshire.

When detonator manufacture began in 1876 the Westquarter factory was small, but from these small beginnings the factory grew to be one of the most important of its kind in the world.

On 29th June Westquarter Factory celebrated its 75th anniversary with a day of entertainment which will be long remembered in the district.

The first entertainment, a children's fête, was held in Tinkers' Haugh, a large and beautiful field in the policies of Callandar House, Falkirk, use of which had been granted by Lt.-Col. Forbes.

In the evening all employees of Westquarter Factory, each with a friend, attended a dinner and dance in Falkirk ice rink. More than 1600 people sat down to dinner in the vast hall. Mr. A. P. Cattle, works manager, Westquarter Factory, presided and was accompanied by Dr. J. W. McDavid, chairman of Nobel Division, and members of the Nobel Division Board. Mr. Cattle read a message from Mr. John Rogers, Chairman of the I.C.I. Board, regretting his inability to be present and wishing the gathering well, and a message from Mr. H. O. Smith, I.C.I. Personnel and Group E (Nobel Division) Director, who was to have replied to the Westquarter toast but had reluctantly to cancel the engagement. Among the guests were representatives of I.C.I. Head Office, other Nobel factories and Divisions of I.C.I. Local authorities, local industries and friends of Westquarter Factory were also represented.

The toast of the evening—"Westquarter Factory"—was proposed by the Rev. Douglas Sommerville, minister of Redding and Westquarter and chaplain to the factory, who spoke in eloquent terms of its past history. Under energetic management Westquarter Factory had prospered and served the

country well in peace and during two world wars. Mr. Sommerville mentioned by name many who had been prominent in the Westquarter story and said that those in it had shown no demand was too much for them, no job too big for them and no target too high.

The chairman of Nobel Division, Dr. J. W. McDavid, replied on behalf of the Company.

"From small beginnings," he said, "Westquarter has grown to be one of the most important factories of its kind in the world. Today over 50% of the production is exported—all for industrial purposes."

This work was work for peace, continued Dr. McDavid, yet during two world wars the factory had continued to supply these essential things and in addition to contribute significantly to the national war effort. Westquarter had always responded magnificently to any demand made upon it. The Factory had achieved a high degree of productivity long before the word in its present sense had ever been heard. On behalf of I.C.I. and the board of the Nobel Division he took this opportunity to congratulate the factory on attaining its 75th birthday and to thank employees today, and their predecessors, for the good work done with energy and enthusiasm.

Mr. A. P. Cattle proposed the toast "Our Guests," mentioning by name the visitors from near-by industries and local authorities. Col. Alan Stein, O.B.E., M.C., T.D., D.L., replied on behalf of the guests. Between speeches there were songs by the Scottish tenor, Mr. John Tainsh, and Miss Jeanette Sclanders.

A dance followed the dinner, and during intervals there were demonstrations of ballroom dancing, a cabaret and more songs by John Tainsh. After the dance a fleet of buses and cars took guests home.

Great credit is due to the organisers of Westquarter Factory celebrations and to all their assistants who helped to make the day such a memorable one for their guests.

### *Schoolgirl wins Festival Trip Prize*

Miss Anne Wilson, 15-year-old daughter of Mr. Peter Wilson (joiner, Roslin Factory), was one of six Scottish schoolgirls who as a competition prize enjoyed a four-day luxury trip to the Festival of Britain in London last month.

Anne, a pupil at Lasswade Secondary School, was one of thousands of schoolgirls from more than 200 Scottish schools who competed in the Scottish Schools Current Affairs Competition, organised by the Scottish *Daily Mail*. To win her prize she wrote six essays on current affairs.

During her Festival trip Anne spent a day at the South Bank Exhibition and the Battersea Pleasure Gardens. Next day she went on a sightseeing tour of London. The programme also included a visit to the B.B.C. Television studio and an evening at a London theatre.

In an interview with our *Magazine* correspondent Anne told how she had come to enter the competition and how she went to work to win.

"I was interested in the competition," she said, "and thought





that by entering I would learn something about current affairs even if I did not win.

"One question dealt with Señor Peron (to me, that meant my meat ration), so I wrote of conditions in Argentina, increased wages and shorter hours justifying a cost increase which our Government were not then prepared to pay.

"My knowledge of sulphur scarcity was up to date, thanks to the *Magazine*, whose pages I read monthly and from which I constantly add to a scrapbook.

"Other questions, about the importance of municipal elections, a subject that has always interested me, how to entertain a foreign visitor in Scotland and how to improve wireless programmes, were easy.

"When the headmaster took me with him to his room to tell me I had won how excited I felt! I was interviewed by a reporter, had a telegram from the editor, and was congratulated by my teachers and by the pupils."

## PLASTICS DIVISION

### *I.C.I. Plastics on Colour Television*

Thousands of visitors to the Royal Show, Cambridge, saw Mr. H. P. Walker, of Plastics Department, Southern Region, demonstrate the uses of I.C.I. Plastics on full-colour television screens on the Pye stand. Each day I.C.I. contributed two fifteen-minute items to the colour television demonstration, which was given by a Pye unit that has toured the world and recently televised surgical operations at a London hospital for the benefit of students.

This was television with a difference, television which enabled visitors to the Show to see I.C.I. products in their natural colours on the screen. Mr. Walker told viewers about the modern uses of Plastics—in particular nylon, 'Perspex,' 'Alkathene' and P.V.C.—illustrated with colourful samples and emphasising the growing range of agricultural opportunities for plastic materials.

## BRUNNER, MOND & CO. (JAPAN) LTD.

### *Japanese Director's Visit*

One of the most interesting visitors to Head Office this summer has been Mr. M. Shimizu, the only Japanese serving as a director on the board of Brunner, Mond & Co. (Japan) Ltd., who has been paying his first visit to this country. Mr. Shimizu, who is now on his way home via the United States of America after spending several weeks here as a guest of the Company, joined Brunner, Mond & Co. (Japan) Ltd. in 1918 and was before then connected with the company through their Japanese agents. He first became a director in 1938 and was re-

appointed in 1950. During the war he was appointed custodian of the company by the Japanese government.

Mr. Shimizu will retain many interesting impressions of his trip. He had never flown until he made his two-day trip from Tokyo to London Airport. In London he had the pleasure of meeting many of his old friends from Brunner, Mond & Co

(Japan) Ltd. at a lunch held in his honour at the Rubens Hotel on 2nd July. Mr. S. P. Leigh (Overseas Controller) was in the chair. Present also were Messrs. R. H. Challinor, H. J. Collar, W. G. Harrold, R. T. Holder, H. Y. Irwine, W. Reid, K. Robertson and P. R. Sandars, all of whom have been closely associated with Brunner, Mond & Co. (Japan) Ltd. during the course of their careers. He had an opportunity of seeing I.C.I. at work during a tour arranged by Head Office which included Alkali, Billingham, Dyestuffs and Metals Divisions and Wilton Works. He is spending some time in the United States of America, where he has visited the office of I.C.I. (New York) before returning to Japan by sea from San Francisco.

Mr. Shimizu, who lives in Yokohama and travels to and from his office in Tokyo each day, has a son in the export department of the company.

## I.C.I. (S.A.) and A.E. & C.I.

### *Happy I.C.I. Emigrants*

Our picture shows a group of I.C.I. employees who have recently gone to South Africa to take up appointments with either I.C.I. (S.A.) or African Explosives and Chemical



Industries Ltd. The picture comes from Mr. P. F. Pike, General Manager of I.C.I. (S.A.), and shows from left to right Messrs. Goddard, Pike, Lunn, Freeman, Mew, Stephens, Vann, Cooke, Calder, and Woolley.

## THE SEPTEMBER MAGAZINE

In our September issue we endeavour to break new ground in the treatment of the industrial story by using the artist instead of the camera. Our artist is Mr. Arthur Horowicz, already known to *Magazine* readers. He has done some fine character sketches of process workers in action at the Castner-Kellner Works of General Chemicals Division.

Our other main article concerns the I.C.I. experimental farms. Mr. R. A. Hamilton, Development Director of Central Agricultural Control, has written an account of the objectives of these farms and of the results obtained. It is a story of which we may well be proud. Next, Mr. Gordon Ellis of Paints Division describes his visit to the monasteries of Mount Athos in Greece. He gives a fascinating account of an unusual human existence, illustrated by some fine photographs. Last, but not least, comes one of the wittiest articles we have yet had the privilege to publish—"In Praise of Bulk," by Mr. A. S. Irvine of Alkali Division.



# Swimming the Channel



A year ago this month a Wandsworth Works foreman of Plastics Division, Sam Rockett, swam the Channel. How he combined his Company duties with a strenuous schedule of training is told here by him in an article that gives the inside story of swimming the Channel.

**S**INCE 25th August, 1875, when Matthew Webb created history by swimming the English Channel in 21 hours 45 minutes, there have been well over 350 attempts. Thirty-six swimmers only, however, have been successful. These include the nine competitors who conquered the Channel in the first organised race—the *Daily Mail* competition of 22nd August, 1950.

Up till then the fastest time ever recorded was that of G. Michel (France), who in 1926 swam from France to England in 11 hours 5 minutes. It was generally accepted in the swimming world that the chances of beating this time were remote. These views, however, were somewhat shattered when the first two swimmers home in the *Daily Mail* marathon—Hassan Abd el Rehim of Egypt (10 hours 50 minutes) and Roger le Morvan of France (11 hours 2 minutes)—beat this 24-year-old record.

Before going into detail about the 1950 marathon, perhaps it would be better if I wrote a little about the actual training and hardships one has to endure before the day of the event. For this it is necessary to go back as far as September 1949, when I first discussed with E. H. Temme that I would like to make an attempt on the Channel.

Temme and I were not unknown to each other, for we had often clashed at water-polo in the London Premier Division. Temme played in the centre-half position for Plaistow, and I was centre forward for London Polytechnic. It was during these games that I first appreciated his terrific strength and stamina. About the polo season

of 1949 I was weighing 16½ stone and he was 18½ stone. As you may well imagine, we had some terrific duels in the water.

Even after my talk with Temme about the possibilities of my Channel attempt in 1950, and after he had warned me just what it entailed for the next eleven months, I did not then appreciate what I was actually heading for. Perhaps it was just as well, for had I been aware, I doubt if I would have carried on! During this conversation finance was mentioned, and my hopes faded when I learned that a solo attempt, including a pilot, crew, boats, hotel fees and a trainer's fee, would cost about £250.

At first I intended to make a solo attempt in order to maintain my amateur status, for it is not easy to forfeit competitive swimming after belonging to various clubs since the age of 8.

Later, however, it was announced that the *Daily Mail* was organising a marathon race open to the world for 1950. It was also mentioned that entrants selected for the race would have their boats and pilots' fees paid for. My hopes were raised again, even though I would lose my amateur status.

Training had now begun in earnest. I very seldom missed a day in the water. My swims ranged from one to four hours in a swimming bath. In the early stages I found it very difficult to get used to wearing goggles for any great length of time. After a few weeks perseverance this was mastered. Later, in fact, I did not feel "dressed" without them. During these long winter months I longed for cold or rainy weather, for the worse the weather, the fewer people I knew



SAM ROCKETT landing at Dover after swimming the Channel in 14 hours 20 minutes



would be in the pool to hinder my training programme. Selfish, perhaps, but most helpful for me.

Within a few months the *Daily Mail* had received well over a hundred applications. Would I be good enough to be selected for the race? Would all this hard training be in vain?

One Sunday early in December 1949 I was given a six-hour trial swim in a North London swimming pool behind locked doors. Much to my surprise I felt quite well at the end of my swim, and very little discomfort was experienced during the swim.

Then came my all-night fourteen-hour trial swim on Saturday, 25th February, 1950. I was scheduled to start at 6 p.m. on the Saturday evening and finish at 8 a.m. the following Sunday morning. This swim too I came through feeling reasonably well, but one could not say I was a bundle of energy at the end of fourteen hours. I cannot find words to express just how monotonous it is to swim up and down, up and down a  $33\frac{1}{2}$  yards pool for fourteen hours. It is often asked what channel swimmers think about during these long swims. Usually it is anything but Channel swimming. I remember on this particular swim I devoted a lot of my thoughts to a problem we were having at my work at the time—inhomogeneity in acrylic aspheric magnifiers. It cannot be said that I solved the problem, but it did pass away quite a bit of time that particular night.

Feeding is quite an important factor during Channel training. Normally feeding takes place every two hours, but the actual feed is carried out in less than forty seconds. It is fatal to take your time in feeding, for two reasons: (a) the body quickly loses heat when stationary in water, and (b) the longer a swimmer stops, the more reluctant he is to start again when enduring physical suffering. After about eight hours in the water a swimmer has very little desire for solid foods and relies largely upon glucose in a hot drink of tea or coffee. Chicken broth and fruit are also a popular meal. Another reason why solid foods are not usually taken after about eight hours is that the tongue is badly swollen by the salt water.

Should a swimmer swallow salt water at any time—and he often does—he invariably becomes sick. This is a pathetic sight for the onlooker, and it is essential for the swimmer to eat and drink again as soon as possible, for food of course is energy.

After my fourteen-hour trial swim I travelled home by Underground to my home in Mitcham. My eyes were badly swollen, due to the goggles, and judging by the way passengers were staring at me I must have been a wretched-looking sight. I eventually crawled into bed at 10.30 a.m., only to be awakened by my wife at 8.40 p.m. to go to work that same night for a nine-hour shift.

My training in the sea started in April. This was the toughening-up course. It must be remembered that indoor pools are usually 74° F. Sea swimming in April is around 52° F. Gradually my outdoor swims were lengthened, and soon during my week-end training at Folkestone I was swimming for six and eight hours at a time.

On 16th June I received a telegram from the *Daily Mail*

stating that I had been selected for the race. This was indeed a tonic to me, for it was giving me a chance to fulfil a life's ambition.

The twenty-nine selected swimmers from the 140 applicants soon began arriving at Folkestone from all parts of the globe. Some were sponsored by their governments, their towns, or by some large advertising agency. I was not quite in that happy position, but managed to train at week-ends in order to keep my expenses down to a minimum.

The excitement at Folkestone as the great day grew nearer was intense. Thousands of people flocked to the Folkestone Bathing Pool to get a glimpse of the competitors. It was impossible to walk many yards in Folkestone without being asked for an autograph or to be photographed. Many holiday-



THE COMPETITORS at 2.30 a.m. on the beach of Cap Gris Nez last year

makers were amazed when I spoke English, as a large majority were under the impression that I was an Egyptian owing to my tanned skin and stature. This was quite a joke among my colleagues.

My three weeks' annual leave was taken just before the race in order to wind up my intensive training. I was very grateful to the Company for also granting me an additional week's leave for recuperation after the swim. A few days before taking leave in early August I learned that my fellow foremen in Plastics Division had organised a raffle called the Sam Rockett Training Fund. £40 was raised for me by their efforts. This was grand news, for it meant that I could now afford to go well out in mid-channel with a good pilot and face hazards such as I was to endure on the actual Channel swim, like rough water, colder water, difficult currents, and possibly stinging jellyfish.

On one of these training swims I became the first person ever to swim from Dungeness Lighthouse to Folkestone—a distance of  $16\frac{1}{2}$  miles. Many attempts had been made on this swim, but no one had succeeded in reaching Folkestone, due to the very difficult tides. This swim brought me well into the limelight. I am told that after this feat the odds on my swimming the Channel dropped from 6-4 against to 5-4 on.

By 22nd August, the day of the race, there were twenty-four entrants representing fourteen different countries. Among



these were well-known celebrities in the swimming world including Antonio Abertundo (Argentine), who once swam 178 miles in the Panama river in 61 hours. His country sent him to England to train many months before the race. A doctor and trainer accompanied him.

The race was scheduled to start at 2.30 a.m. pending good weather. At 1 p.m. the previous day instructions were given to all competitors to report at Dover Docks that same evening and travel by convey to Cap Gris Nez. A force of gendarmes had been mustered to control the crowds.

It was impossible to sleep or even rest quietly, due to the excited French holidaymakers, reporters and cameramen.

The minutes ticked slowly by, and at 2.25 a.m. orders were given for all swimmers to be greased. Each swimmer had

hours except that I had now come up into the fifth position. I was refusing solid foods and my arms and body had started to ache.

By now the morning mist had lifted and I noticed that my friends in the launch were attracting my attention and pointing straight ahead. Yes, it was the white cliffs of Dover looming up in front. Despite the fact that I had been warned to avoid looking at these cliffs, as the distance is so deceiving, I could not but help feel excited.

Throughout the race I did not change my stroke, but adhered rigidly to the overarm trudge-crawl, the most popular and relaxing stroke for long distance. After ten hours the cold water was now affecting me, and I knew that it was vital to keep going in order to prevent shivering. It was in this cold

stretch of water that Lars-Bertil Warle (Sweden) and Alfonzo (Guatemala) retired due to the cold. This horrid thought had not yet entered my head. Indeed, I had instructed my pilot before the race that I was not to be taken out of the water except in the event of my sinking with exhaustion, or by my own request.

I was now fourth in the race, with Hamad (Egypt) just ahead.

At 2 p.m., after 11½ hours' swimming, St. Margaret's Bay was three-quarters of a mile away from me, but the tide had begun to flow west. This was now a critical time. For one solid hour I swam as hard as my body would allow me, to try to break the tide which was now flowing faster, but to my dismay I did not gain a single yard nearer to the shore. I had missed the tide and knew only too well that I was now really in trouble. Surely there was a better way to spend a summer's day than this!

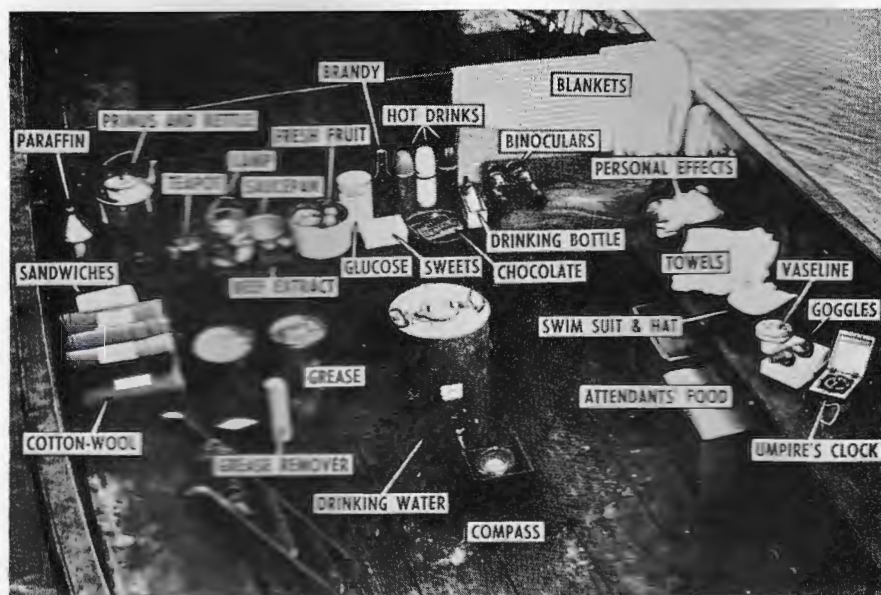
My pilot told me to swim 2½ miles due west and head for Shakespeare Cliff. By that time the tide would begin to ease again. It was heart-breaking to receive an order like that after being in the water so long, but there was no alternative if I wished to achieve my ambition. After swimming parallel with the coastline past St. Margaret's Bay, Dover Harbour and the shingle beach, I gradually edged my way into shore.

The excitement was now terrific. Kenneth Best, the B.B.C. commentator, who is also a well-known swimmer of the London Otter Club, swam the last few hundred yards with me. I could now see people on the beaches flocking together where they anticipated my landing.

Then it happened. I touched something solid beneath me. It was a rock! How I clutched hold of it, conscious of the fact that I had to walk or crawl out three yards unaided from the water before I reached my objective in accordance with the *Daily Mail* rules!

Tears of joy were in my eyes as I slumped and slid flat out on a rock, recovering after 14 hours 20 minutes in the Channel, oblivious to the hundreds of people and cameramen now around me.

It did not take long to recover, even though I discovered later that I had lost 8 lb. in weight. In fact, I was well enough to broadcast a few minutes later before returning to my hotel and indulge in eleven hours' solid sleep.



THE EQUIPMENT carried by the umpire's launch

approximately 10 lb. of lanoline smeared over him, and believe me every ounce is fully appreciated after being in the water for a few hours.

Five minutes later a shot fired from a Viceroy pistol was the signal for eighteen men and six women to enter the water and swim away into the Stygian gloom. We were off! This was one of the moments I had been trying to visualise for months. Gradually the cheering faded away as we ploughed our way through the water. Each swimmer was provided with a rowing boat and a motor launch. An official appointed by the *Daily Mail* sat in the rowing boat to ensure that the swimmer did not touch the boat—not even when feeding. Radar equipment was fitted to each motor launch, so that it was possible to pinpoint every swimmer's position from the master control tug. The motor launch with me also contained my pilot, my brother, a fellow foreman (Mr. Vic Harris) and a crew of three.

After half an hour's swimming I found my goggles were letting in water and causing some discomfort. This was due to my hair being contaminated with grease and making the buckles slip. Fortunately I carried a spare pair of goggles, and after a few changes the trouble was soon overcome. My first meal was at 4.30 a.m., when dawn was breaking. By now the swimmers were well apart, and I learned that I was lying in the eighth position.

Nothing of importance happened for me in the first eight





*Pipe runs at Wilton Works with the Olefine plant structure in the background*